

NOVEMBER 2, 1935

MODERN MEDICINE



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By Dr. James S. Foppen

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Walter C. Alvarez

Editor-in-Chief

THE MAN ON THE COVER is Dr. James L. Poppen, neurosurgeon to the Lahey Clinic and New England Deaconess, Boston Psychopathic, and New England Baptist hospitals. Dr. Poppen is a fellow of the American College of Surgeons and is a member of the Society of Neurological Surgeons, the American Neurological Society, and Harvey Cushing Society. Dr. Poppen is noted for his studies on the surgical treatment of intracranial aneurysms. Among his recent articles is the report on page 104, "Significance of Cranial Bruit."



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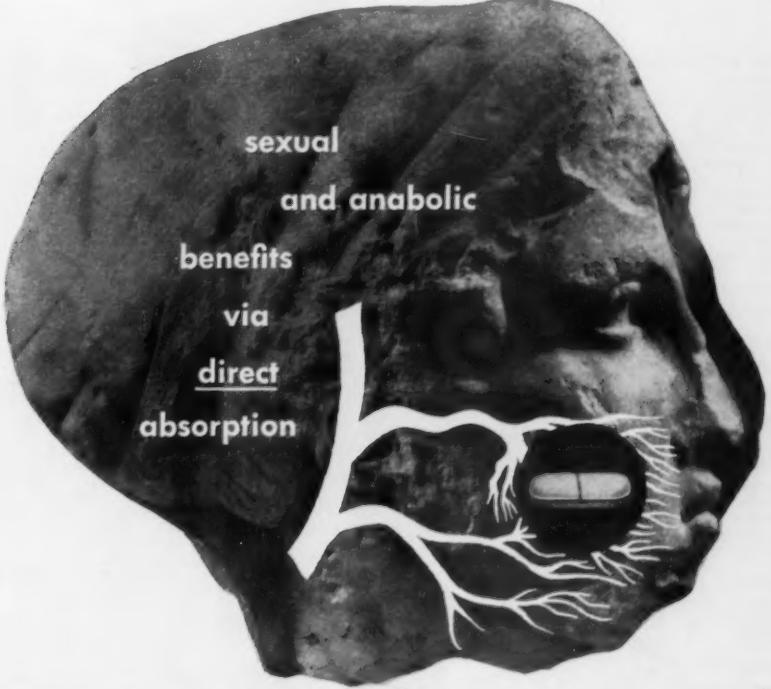
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NOVEMBER 1, 1955

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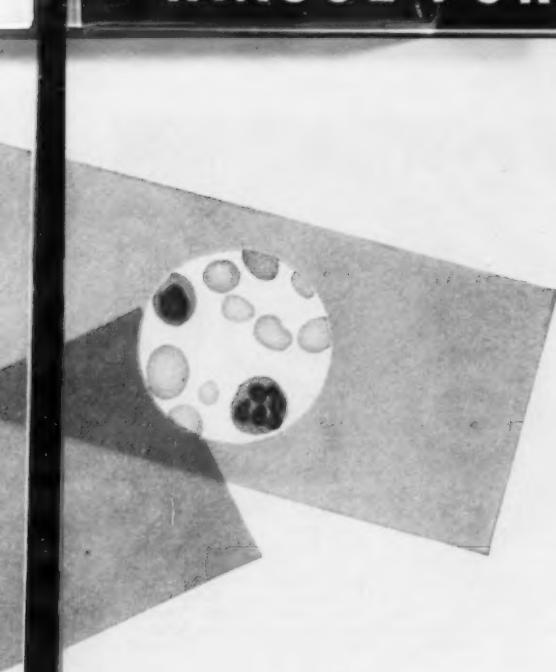
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*Ataractic, from ataraxis: calmness untroubled by mental or emotional excitation. (Use of term suggested by Dr. Howard Fabing at a recent meeting of the American Psychiatric Association.)

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LETTER FROM THE EDITORS

Dear Reader:

The doctor's problem of keeping up to date is getting more and more difficult. Medicine is making such tremendous strides that every month there are new problems to face, new operations to use, new drugs to get acquainted with, and many medical journals and books to read. Few physicians find time to read as extensively as they wish.

An important function of *Modern Medicine* is to give the physician an opportunity of using his reading time most effectively by directing him to those articles that are most pertinent to his interests. Because of his limited time for reading, the busy doctor is forced to do far more skimming than reading. Generally he reads the summary of an article and quits there, unless the summary interests him enough to lead him into the article.

The reports in *Modern Medicine* are extended summaries carefully prepared to give the doctor a fair presentation of the gist of the article, with the significant clinical information set forth in as much detail as space permits. The report requires only two or three minutes to read and it supplies two needs. First, as a part of the mosaic that makes up the synoptic picture of the current literature, it serves to keep the reader informed of developments in every field of medicine. Second, it provides the physician with sufficient information for him to decide whether he should seek out the original article for the full and complete account.

It is impossible for the physician to read everything that is published. *Modern Medicine* affords him the means of making his reading time count most by leading him to those articles of particular interest to him. By regularly reading *Modern Medicine*, he avails himself of the services of a group of dedicated practitioners who have screened the current literature for him so that he can devote the rest of his reading time to perusal of the articles he feels he cannot afford to miss.

The Editors

In your convalescent patient...

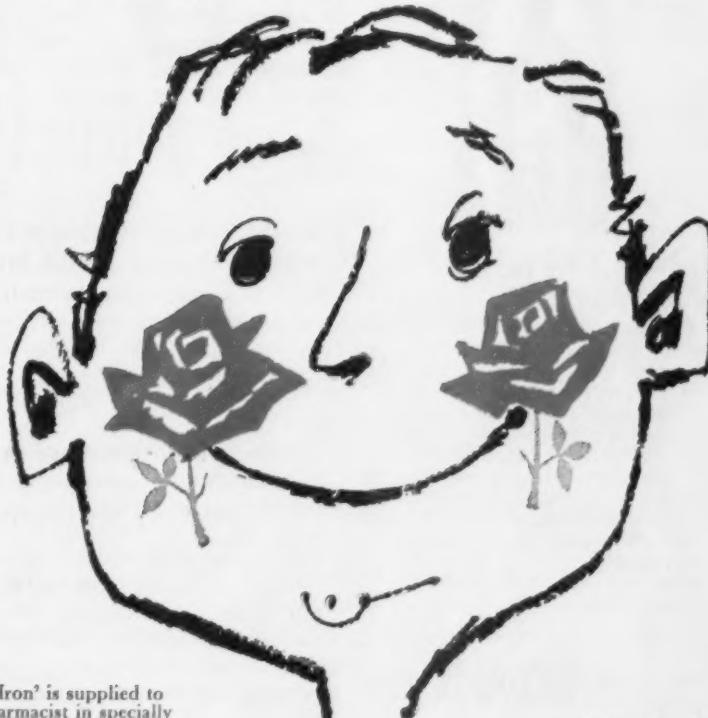
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Correspondence

Communications from the readers of MODERN MEDICINE are always welcome. Address communications to The Editors, MODERN MEDICINE, 84 South 10th St., Minneapolis 3, Minn.

Functional Bleeding Therapy

TO THE EDITORS: In Dr. Edmund R. Novak's article on management of functional bleeding (*Modern Medicine*, Aug. 15, 1955, p. 106), no mention is made of one of the best and easiest ways of stopping functional bleeding, namely, intravenous estrogen. This therapy has yielded excellent results and is far better than other methods.

LAWRENCE KURZROK, M.D.
 New York City

Would Remove Tonsillar Tags

TO THE EDITORS: I do not agree with the statement of the consultant in ophthalmology regarding the removal of the tonsillar tags in the individual with acute retinitis (*Modern Medicine*, Sept. 1, 1955, p. 33).

I do agree that it would be best to wait until the retinitis is quiescent before removing the infected tags, but it is difficult to predict whether surgery would relieve the retinitis. I believe that tonsillectomy should be done to eliminate a definite focus of infection and thus reduce the frequency and severity of subsequent attacks of retinitis.

NORMAN N. FEIN, M.D.
 Little Rock, Ark.

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Treatment for Bromhidrosis

TO THE EDITORS: A recent inquiry in the Questions and Answers section of *Modern Medicine* (July 15, 1955, p. 36) concerned the treatment of bromhidrosis in an 11-year-old boy. The consultant in dermatology suggested hexachlorophene preparations and proprietary antiperspirant deodorants. I have another remedy for this which has greater and longer lasting effect.

When confronted with this problem in mental patients, I recalled how my hands used to be dry after handling formalized specimens in the pathology laboratory. Therefore, I used a 10% formalin solution to paint the soles and interdigital areas. The effect is immediate and is reasonably long lasting. For ex-

ample, after 2 or 3 daily paintings with the solution, treatment is omitted for a week. Shoes should be permitted to dry out before re-wearing.

ROLAND D. ROECKER, M.D.
Summit, N.J.

Problem of Terminology

TO THE EDITORS: It is very gratifying that our article "Colposcopy" by Karl A. Bolten and Drs. Lewis C. Scheffey and Warren R. Lang (*Obst. & Gynec.* 5:294-306, 1955) was abstracted in *Modern Medicine* (July 15, 1955, p. 156).

There is a problem of terminology, however, that the abstract does not clarify completely. To the colposcopist, leukoplakia simply des-

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A 19 year old female with a 5 year history of cystic pustular scarring of the face. The lesions have failed to respond to various forms of therapy.

CORRESPONDENCE

ignates white patch. There are 3 types noted colposcopically: [1] True leukoplakia with hornification is often detected by gross examination and, of course, is well recognized. [2] Ground leukoplakia is characterized by profuse reddish dots on a whitish-yellow field with a depressed surface. [3] Mosaic leukoplakia is seen as whitish-yellow fields bordered by red lines.

Mosaic and ground leukoplakia cannot be discerned by the naked eye. Iodine staining is ineffective in all 3 types.

The area of leukoplakia, when biopsied, may show preinvasive or invasive carcinoma. In most instances, however, the areas appear atypical or completely benign.

We fully realize that the problem

of leukoplakia, as defined colposcopically, is confusing, but the exact terminology is fixed in the literature and must be clearly understood.

WARREN R. LANG, M.D.
Philadelphia

Surgeon's Vade Mecum

TO THE EDITORS: Dr. Nicholas A. Michels, Professor of Anatomy at Jefferson Medical College, Philadelphia, has just published "Atlas of the Anatomy of the Upper Abdomen," the result of twenty years of investigative research.

This work is monumental and will be a vade mecum of all surgeons who work on the upper abdomen.

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*Tainter, M. L., et al: Papain, Ann. New York Acad. Sc. 54:143-296 (May) 1951.



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1. Shapiro, I.: Postgrad. Med. 15:503 (June) 1954; J. M. Soc. New Jersey 52:6 (Jan.) 1955.
2. Shapiro, I.: J. M. Soc. New Jersey 50:17 (Jan.) 1953.

CORRESPONDENCE

Dr. Michels has investigated particularly the blood supply of the liver and the stomach and the anatomic variations of the arterial supply. A knowledge of Dr. Michel's work will lower the operative mortality as much as any book on technic.

I am writing you because I think that the anatomists who do such fine work for the surgeons and patients should have due recognition.

EDWIN J. STEDEM, M.D.
Columbus

Questions on Insemination

TO THE EDITORS: I have 2 questions concerning the article "Legal Aspects of Obstetric Practice" by Dr. Louis J. Regan of Los Angeles

(*Modern Medicine*, Aug. 1, 1955, p. 182). Why is the consent of both donor and his wife advisable? Why shouldn't the physician doing the insemination become the obstetrician for the impregnated patient?

E. A. HILLSTROM, M.D.
Phoenix

¶ The Editors passed the questions on to Dr. Regan. He states:

► Consent should be obtained from the donor so that he cannot claim fraud in obtaining or using his semen and from the donor's wife so that she cannot declare violation of her rights by the unauthorized use of her husband's semen for the purpose of impregnating another woman.

The physician who successfully impregnates a woman with semen

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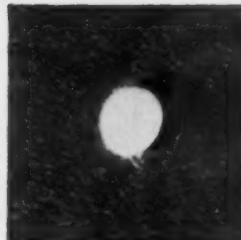
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The organisms commonly involved in

Tracheobronchitis



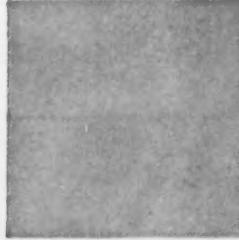
Str. pyogenes (8,500 X)



Staph. aureus (9,000 X)



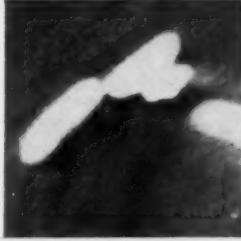
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CORRESPONDENCE

from someone other than her husband should not be the obstetrician in the ensuing delivery because of the problem in supplying the name of the "father" on the birth certificate. Falsification of a public document is a serious criminal offense.

Atomic Stimulation, Perhaps

TO THE EDITORS: Just a word or two about Dr. Philip Saper's query on sexual exchange of hormones (*Modern Medicine*, Aug. 15, 1955, p. 26).

Dr. Saper has proved himself to be a good writer and keen observer. There can be no doubt that both cow and bull are wild when in deep heat. I have seen them come

together, and one could almost see the sparks fly out of the bull's nose. All is soon over, and both are as relaxed as can be.

There could very well be something to hormonal exchange, but, according to my farmlife impressions, there seems to be some kind of internal nervous combustion or, to put it more aptly, an accentuation of atomic stimulation of the nerves which lie deep in the vaginal vault. All that is needed is the bull's instrument to touch off the sparks in order to reach the epicenter of exquisite relief. I believe that the reaction is a nervous phenomenon of an indescribable quantity, rather than a hormonal one.

JACK C. NORRIS, M.D.
Atlanta



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*Combes, F. C. & Canizares, O.: New York St. J. Med. 52:706, 1952; Marsh, W. C.: U. S. Armed Forces M. J. 1:1045, 1950.



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tastes wonderful!

REFERENCES: 1. Blanchard, K. and Ford, R. A., Effective Antitussive Agent in the Treatment of Cough in Childhood, *Journal-Lancet*, 74:443, Nov., 1954. 2. Cass, L. J. and Frederik, W., Comparative Clinical Effectiveness of Cough Medication, *Amer. Pract. and Dig. of Treat.*, Vol. 2, p. 846, October, 1951.

^{1,2}Reprints available upon request.



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No. 1

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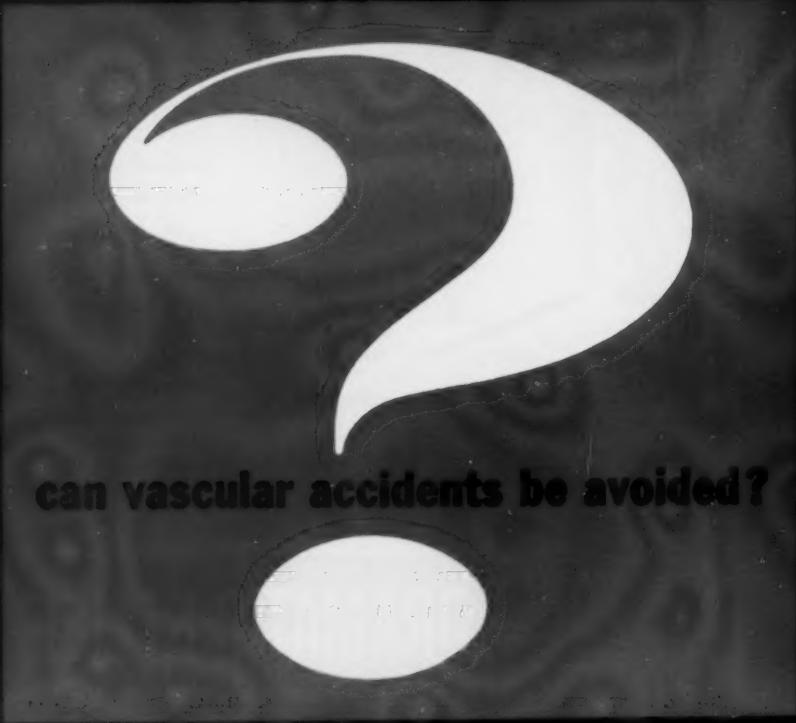


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Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, 84 South Tenth Street, Minneapolis 3, Minnesota.

Myasthenia Gravis

QUESTIONS: A pregnant woman is receiving oral Prostigmin, ephedrine, and also Dexedrine for myasthenia gravis. Should complications be expected? What form of anesthesia is recommended? Will the baby need medication?

M.D., Massachusetts

ANSWERS: By *Consultant in Obstetrics*. If myasthenia is in remission, no difficulty need be expected during labor. However, operative delivery may be necessary during the active phase of the disease to avoid the muscular strain of bearing down. Section is not done until the cervix is completely dilated.

Local anesthesia may aggravate the disease process. General anesthesia may be used if the anesthetist is well trained and if facilities are available to prevent respiratory obstruction.

By *Consultant in Pediatrics*. The baby born to this mother will probably be normal and require no medication. The possibility that the fetus would absorb enough Prostigmin to produce symptoms is unlikely. However, the child should be closely observed. If symptoms occur, atropine should be given.

Tourist Souvenir . . .

Dear Tom,
Scene and lovely,
yes—but what
Dr. Scott warned
us about, we got—
both junior and I!
Home on the 10th
Love,
Mary

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Spruce, N.H.
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Memorable beauty, pastoral charm, vacationer's diarrhea. . . .
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QUESTIONS & ANSWERS

Treatment for Carbuncles

QUESTION: What is the preferred treatment for acute carbuncle?

M.D., Rhode Island

ANSWER: *By Consultant in Surgery.*

A carbuncle during the early stage can sometimes be aborted by x-ray therapy, but treatment is usually surgical. The most common surgical procedures are wide cruciate incisions with adequate undercutting of the flaps, parallel incisions down to the fascia, gridiron incisions, and, occasionally, excision of the carbuncle. Multiple foci and trabeculation make drainage difficult.

Adjunctive measures include rest, application of heat, administration of antibiotics to prevent spread, and ointments.

Pigmentation of the Tongue

QUESTION: An 81-year-old woman has had a black coated area in the center of her tongue for three months. What is the etiology and treatment?

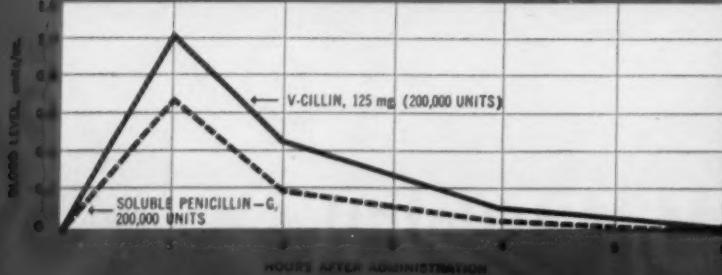
M.D., Arizona

ANSWER: *By Consultant in Dermatology.* A circumscribed area of filiform, pigmented hyperkeratosis on the central area of the tongue is usually due to bacterial or mycotic processes. The condition has been much more common since antibiotic therapy, which probably permits the increased growth of nonpathogenic bacteria in the oral flora. If caused by antibiotics, the condition usually disappears spontaneously several months after discontinuing treatment. Good oral hygiene may be beneficial.

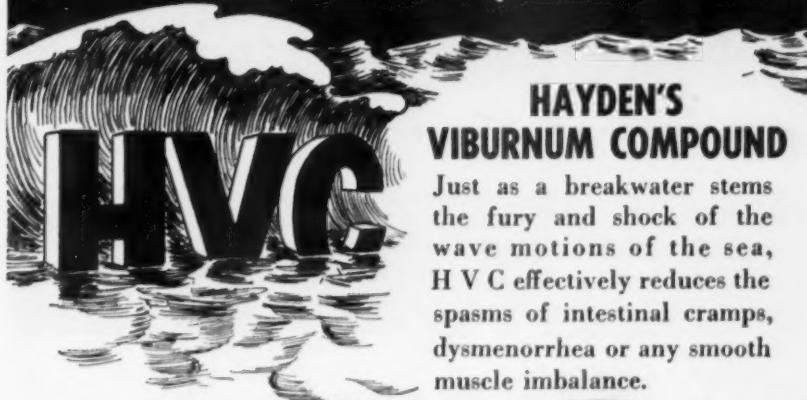
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supplied: Attractive green-and-gray pulvules of 125 mg. (200,000 units), in bottles of 50.



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averaged only 331 mg. Apresoline daily

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Reference: Hughes, W. M., Dennis, E., and Moyer, J. H.: Am. J. M. Sc. 229:121 (Feb.) 1955.



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Forensic Medicine

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*Prepared especially for
Modern Medicine*

Compensation—Hernia

PROBLEM: In a workmen's compensation trial, medical experts testified that a patient is usually unable to continue working immediately after sustaining a hernia. Did this testimony preclude a finding of hernia if a worker felt a burning sensation after handling a 100-lb. load but continued work for an hour?

COURT'S ANSWER: No.

So decided the Louisiana Court of Appeal, First Circuit (80 So. 2d 576).

Insurance—Double Indemnity

PROBLEM: Preparatory to employment abroad, a carpenter was vaccinated against smallpox, typhoid, typhus, and cholera during an eleven-day period. He died of coronary occlusion seventeen days after the first injection. He had been in good health previously, but became ill after the first injection. Medical experts testified that a clot, resulting from crowding the injections, caused the occlusion and that such injections were usually given over a period of three weeks. Was death attributable to the injections so that double indemnity insurance was payable?

COURT'S ANSWER: Yes.

So decided the Texas Court of Civil Appeals (278 S.W. 2d 173).

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fear *intensify the suffering
of your patient in pain*

'Thorazine' dispels
anxiety, tension and fear,
leaving in their place
a feeling of serene detachment.
The patient on 'Thorazine'
may still have pain,
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As Karp et al.¹ point out, 'Thorazine'
induces "a phlegmatic acceptance of pain,"
reducing suffering or eliminating it altogether.



THORAZINE* *relieves suffering
in most extremely painful conditions,
including neuritis, neuralgia,
severe tension headache and severe burns.*

Smith, Kline & French Laboratories, Philadelphia

1. Karp, M.; Lamb, V.E., and Benaron, H.B.W.: Am. J. Obst. & Gynec. 69:780 (April) 1955.

*T.M. Reg. U.S. Pat. Off. for S.K.F.'s brand of chlorpromazine.

FORENSIC MEDICINE

Abortion—*Disclosure*

PROBLEM: The New York City Code requires hospital superintendents and physicians to notify the health department immediately of abortion cases if criminal practice is discovered or suspected. The District Attorney believed that the rule was being disregarded and instigated a grand jury investigation. The superintendent of Kings County Hospital was subpoenaed to produce papers, folders, charts, and hospital records of persons treated at the hospital for miscarriage or abortion, other than therapeutic, during a specified time. Was the superintendent guilty of contempt in refusing to comply with the subpoena?

COURT'S ANSWER: No.

The New York Supreme Court, Appellate Division, Second Department, decided that the municipal rule was void so far as it conflicted

with the New York state statute prohibiting a physician to disclose information professionally acquired from a patient. Since therapeutic abortions are rare, the practical effect of the subpoena was to require production of records of all patients treated in the hospital for abortion, spontaneous or induced, innocent or criminal. The code provision was not intended to be used to obtain mass information of all abortion cases, but refers only to current cases in which criminal practice is either discovered or expected (143 N.Y. Supp. 2d 501).

This decision, dated June 30, 1955, is subject to review and possible reversal by the New York Court of Appeals.

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Poisoning—*Beryllium*

PROBLEM: A company that produced beryllium was liable for the deaths of an employee's wife and of another worker's daughter who were poisoned by particles of the chemical on the employees' work clothing, which the women laundered for five- and eight-year periods. Were the deaths accidental within the meaning of an insurance policy?

COURT'S ANSWER: Yes.

The United States Court of Appeals, Third Circuit, rejected the argument of the insurance company that accident implied a single, unexpected, distinctive event. The result was unexpected, and the policy did not disclaim coverage for accidents not constituting a single event (223 Fed. 2d 71).

The court cited an Illinois Supreme Court decision that injury from continued absorption of radium can constitute an accident (411 Ill. 325, 104 N.E. 2d 250).

Water Supply—*Fluoridation*

PROBLEM: Does a municipal water fluoridation project constitute illegal mass medication or practice of medicine?

COURT'S ANSWER: No.

The decision rendered by the Ohio Supreme Court June 29, 1955 is in accord with judgments by appellate courts throughout the country, including Louisiana, Oklahoma, and Washington courts (127 N.E. 2d 609).

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therapy
...with
one-half
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<u>Bellafoline</u>	0.25 mg.
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*Average Dose: 1 suppository at
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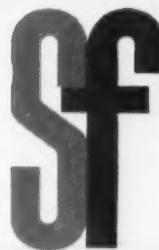


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*REG. U.S. PAT. OFF.

FORENSIC MEDICINE

Malpractice—Necrosis from Cast

PROBLEM: Two years after a doctor performed arthrodesis for a comminuted fracture of a heel bone, defendant doctor operated to correct alignment. The patient insistently complained that the cast was too tight, despite the cutting of a window in the cast over the wound. When the cast was removed six weeks later, necrosis and slough were evident. The foot was eventually amputated. Could the jury decide whether necrosis was caused by prolonged tightness?

COURT'S ANSWER: Yes.

The California District Court of Appeal, Fourth District, said that though medical opinion was needed, the jury must ultimately decide if the cast was too tight and if the patient's complaint should have been heeded (285 Pac. 2d 977).

Compensation—Ruptured Aorta

PROBLEM: A linotype operator became very ill while at work, which involved lifting heavy linotype machine equipment, and died about twenty-four hours later. When medical testimony established that the worker had a diseased abdominal aorta, could workmen's compensation be awarded on a theory of traumatic rupture of the aorta?

COURT'S ANSWER: Yes.

The Georgia Court of Appeals relied upon a postmortem examination report that the aorta had been enlarged for some time and upon medical testimony that rupture of a diseased aorta can be caused by trauma. The court stressed findings that the employee had ecchymosis and had been carrying heavy objects (88 S.E. 2d 498).

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Insurance—Coverage

PROBLEM: An aged person was insured against hospital expenses for not more than one hundred and twenty days for any one continuous period of sickness. After hospitalization for one hundred and twenty days, he lived at a hotel, ate at cafes, attended church and movies, and cared for himself for three months. Then he was rehospitalized. Was he entitled to benefits for another period of one hundred and twenty days?

COURT'S ANSWER: Yes.

The Texas Court of Civil Appeals, Eastland, said that although insured was rehospitalized for the same condition, chiefly old age, the continuity of the sickness was broken by the period of stay away from the hospital (281 S.W. 2d 117).

Confidences—Violation

PROBLEM: A grand jury that indicted a motorist for criminally negligent driving was influenced by testimony of a doctor who had treated accused for a year for epilepsy. The doctor testified that he had warned the patient that he would get into trouble if he did not quit driving. Accused had not consented to the doctor's testifying. Was the indictment void?

COURT'S ANSWER: Yes.

The New York County Court, Nassau County, decided that the testimony violated the New York statute that bars disclosure of information obtained by a physician while attending a patient if acquisition of the information is necessary to treatment (142 N.Y. Supp. 2d 657).

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The physician is subject to hazards arising out of the very nature of the profession. For example, tuberculosis is about 3 times more common among medical students in this country than among other young adults of the same age group. The danger of tuberculous infection lessens as the physician grows older.

Infection by other microorganisms is always possible, also. The physician is exposed to many infections in contacts with patients. Infection is frequently acquired from a needle and syringe or the autopsy table. The incidence of new infections has not been reduced by the introduction of chemotherapy, as many organisms are resistant to chemotherapeutic agents.

*Physician, heal thyself. GP Vol. 11, No. 1, pp. 69-73, 1955.



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1. Food and Nutr. News, vol. 25, p. 3 (1954).
2. McLester, J. S. and Darby, W. J.: Nutrition and diet in health and disease. W. B. Saunders Company, Philadelphia, 1952. p. 107.



Chicago 11, Illinois

The risk to the physician from excess radiation is becoming more prevalent. The use of diagnostic x-rays and the number and variety of radioisotopes used in medicine are increasing rapidly. The frequency among physicians of deaths from leukemia is 175% of that among white males in the general population, and leukemia in radiologists is over 10 times as frequent as among physicians who are not radiologists. Other varieties of neoplasms are also observed more often after exposure to radiation. The requisite protective measures against radiation exposure are well known, but physicians and assistants do not always employ these measures.

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The general practitioner is especially susceptible to diseases associated with stress, such as cardiovascular disease and peptic ulcer, and to suicide. The death rate from intracranial vascular lesions for physicians is 20% higher than for

(Continued on page 61)

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SUMMIT, N. J.

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Improved	4 (20%)	79 (51.6%)	83
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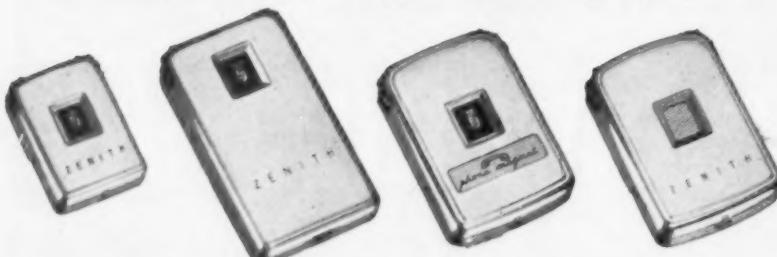
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about GOUT...

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WITH COLCHICINE

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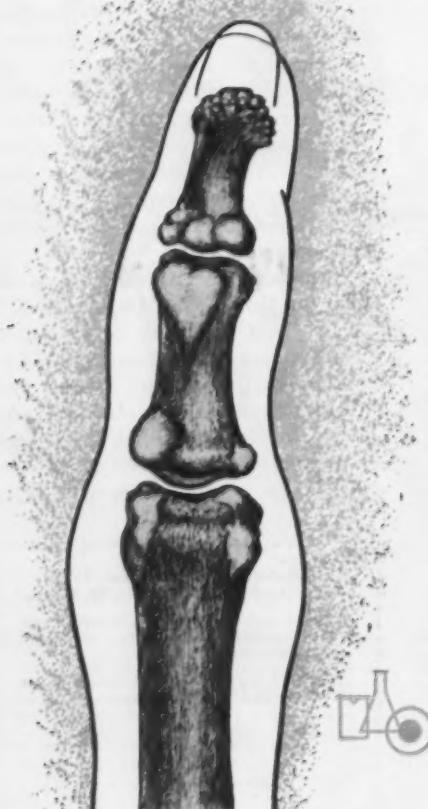
Supplied: Bottles of 200, 500, and 1000 yellow, enteric-coated tablets.

1. Talbott, J. H.: Postgrad. Med. 5:386, May, 1949.

Literature on request

THE CENTRAL PHARMACAL COMPANY
Products Born of Continuous Research
SEYMORE, INDIANA

*Trademark of The Central Pharmacal Co.



white males in the general population, and the death rate from diseases of the heart and coronary arteries is 18% higher.

Every doctor should select a personal physician. However, the physician usually does not promptly consult another doctor for definitive diagnosis even when symptoms or signs are serious. The reasons for this delay include being too busy, not wanting to impose on colleagues, and fear of being labeled neurotic. Obviously, such attitudes must be corrected.

Furthermore, doctors do not know how to care for other doctors. In efforts not to appear self-important or pedantic, physicians tend to be diffident and too casual when examining colleagues. In ad-

dition, doctors leave too much to the discretion of the physician-patient, such as the arrangements for tests and therapeutic regimens.

Periodic examinations, early reporting of signs and symptoms, and avoidance of specific hazards, are important preventive measures that every physician should employ.



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Multivitamins

CAPSULES GRANULES SYRUP



VI-MAGNA Capsules: sealed, dry filled; easy to swallow. Contain all essential vitamins, including Folic Acid and B12.

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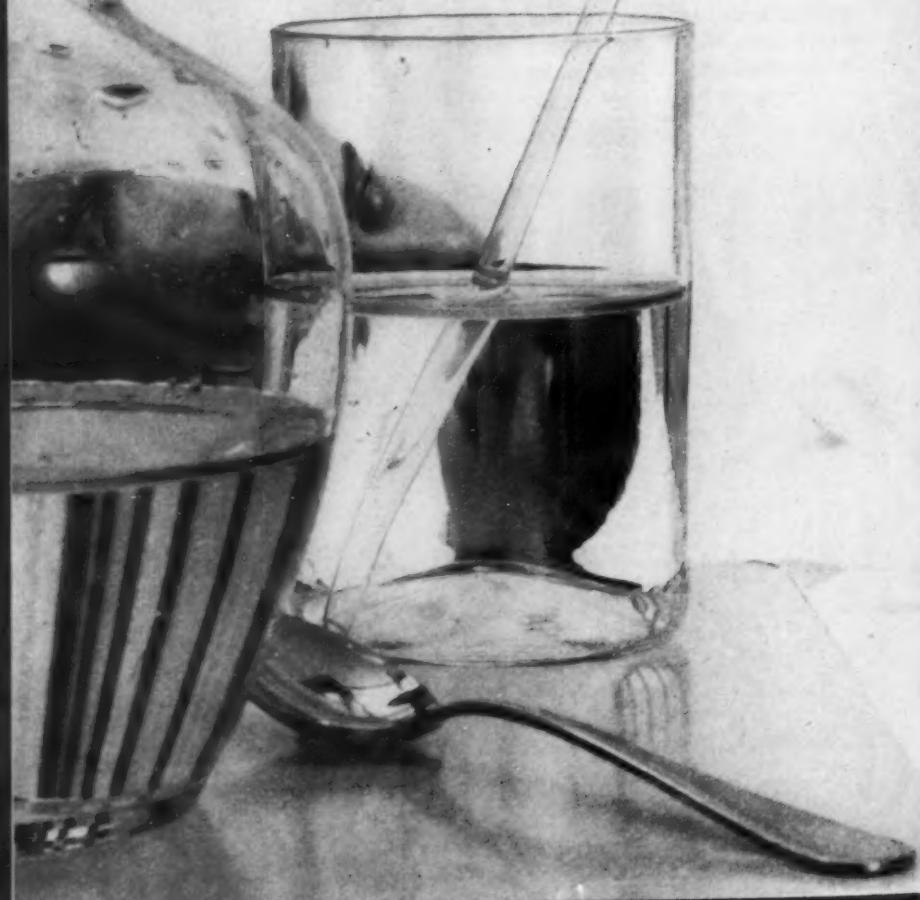
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FLUID INTAKE
IS FORCED

Tetra
Brand of tetracycline



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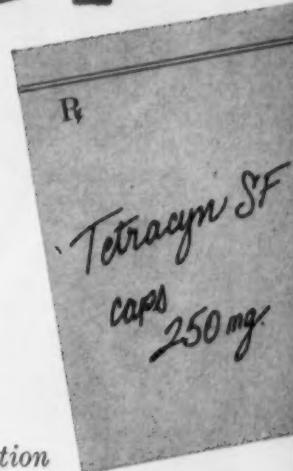
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maximum antibiotic blood levels¹
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with a single prescription



Available also as oral suspension, containing 125 mg. Tetracycline per 5 cc. teaspoonful. Terramycin† SF* 250 mg. capsules combine Terramycin with the identical vitamin formula. The minimum daily dose of each antibiotic furnishes at the same time the vitamin formula recommended by Pollack and Halpern⁴ for conditions of stress.

* TRADEMARK FOR PFIZER BRAND OF ANTIBIOTICS WITH VITAMINS.

†Brand of oxytetracycline

1. Dumas, K. J.; Cariozzi, M., and Wright, W. A.: Antibiotic Med. 1:296 (May) 1955.
2. Prigot, A.: Ann. New York Acad. Sc., in press.
3. Milberg, M. B., and Michael, M., Jr.: Ibid.
4. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, Prepared in Collaboration with the Committee on Therapeutic Nutrition, Food and Nutrition Board, National Research Council, Washington, D. C., 1952.



PFIZER LABORATORIES, Brooklyn 6, N. Y.
Division, Chas. Pfizer & Co., Inc.

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Diaparene
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ANTI-BACTERIAL • ANTI-ENZYME

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for
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COMPLICATIONS

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Damage Claims Involving Obstetric, Gynecologic Disorders after Accidents

ROBERT J. MC NEIL, M.D.
Los Angeles

*An injured woman should be examined for possible pelvic damage within twenty-four hours after the accident to establish validity of an insurance claim.**

THE general employment of women in industry imposes definite problems in the fields of obstetrics and gynecology. Women may be exposed to numerous types of accidents during working hours which usually directly or indirectly involve insurance claims.

An injury to a pregnant woman poses a problem of liability to both the mother and child. *Abortion* is rarely caused by an injury. To ascribe abortion to a specific injury, the previous course of the pregnancy must have been normal, examination of the fetus and membranes must reveal no abnormality of development, and the time interval between injury and onset of signs of inevitable abortion must be only minutes or a few hours.

Premature labor is occasionally induced by severe abdominal injury or violent jarring. An injury sufficient to induce labor usually causes external contusions or bruises. To connect premature labor with an accident, the criteria

*Accidental injuries to women. California Med. 83:30-33, 1955.



throughout the adult years

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(PAN-VITAMINS, LILLY)

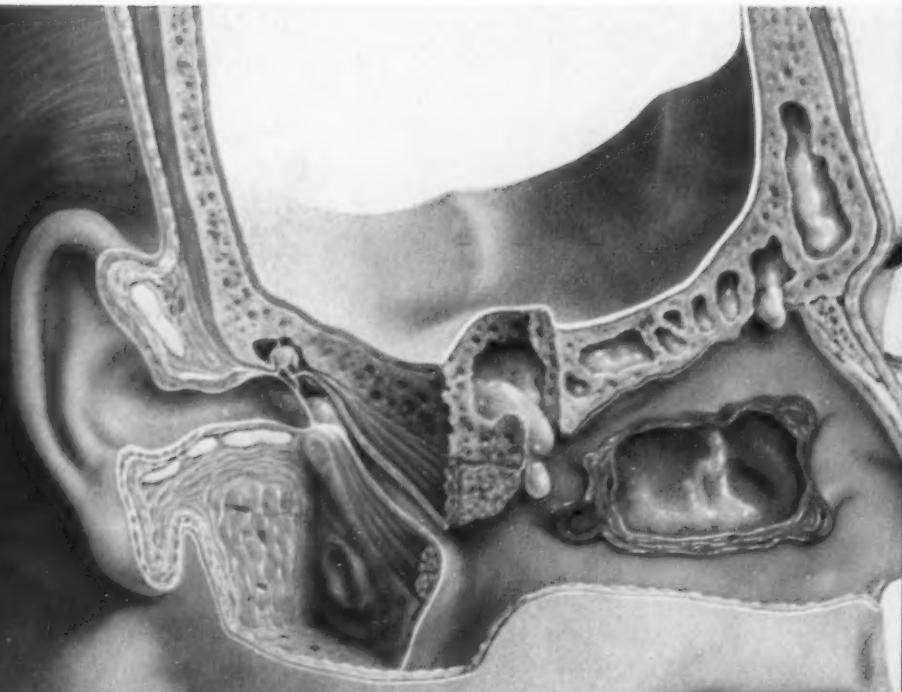
prevents vitamin deficiency



All things considered, 'Multicebrin' is your patients' "best buy" in the multiple vitamin field. It assures vitamin protection for active teen-agers and busy parents; meets the most rigid specifications for stability and potency. 'Multicebrin' is unexcelled in formula, quality, and price. Eli Lilly and Company, Indianapolis 6, Indiana, U. S. A.

A DISTINGUISHED MEMBER OF THE *Lilly* FAMILY OF VITAMINS

Most useful antibiotic for the most prevalent infections



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(ERYTHROMYCIN, LILLY)

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Most effective antibiotic against staphylococci.

Practically all staphylococci encountered in private practice are highly sensitive to 'Ilotycin'—more than to any other antibiotic.

More effective against streptococci than the tetracyclines.

'Ilotycin' is bactericidal. The great majority of throat cultures become negative within twenty-four hours. Complications are minimal.

Fully as effective against pneumococci as any other antibiotic.

The pneumococci-killing action of 'Ilotycin' is especially desirable in elderly patients and in debilitated states.

Safe and well tolerated.

Complications such as staphylococcus enteritis, serious allergic reactions, or avitaminosis have not been reported in the literature.

Dosage: 250 to 500 mg. q. 6 h.

Children, 5 mg. per pound of body weight q. 6 h.

Tablets, pediatric suspensions, drops, I.M. and I.V. ampoules.

Eli Lilly and Company • Indianapolis 6, Indiana, U.S.A.



532197

outlined for abortion must be met.

Placental abruption can be ascribed to trauma when symptoms begin immediately after injury and evidence such as retroplacental hemorrhage or clot is found at delivery. *Placenta previa*, on the other hand, is a predetermined condition which cannot be altered by injury. *Toxemia of pregnancy* is a metabolic condition and is never caused by external trauma.

Intrauterine death of a fetus may be caused by external injury, but intrauterine evidence such as contusions or bruises on the fetus must exist. *Abnormal fetal positions* are never the result of injury.

Cesarean section is almost never necessary as a result of trauma. A pelvic fracture does not prohibit

childbearing, since cesarean section can compensate for pelvic disproportion.

Conflicting problems also exist in nonpregnant women. *Back pain* after an accident is usually orthopedic in nature if pelvic organs are normal and mobile.

Pain after an accident may be ascribed to a *tipped uterus*, even though the condition has existed for many years. Trauma can be implicated if symptoms immediately after the accident include vaginal bleeding and pelvic pain and pressure and if the fundus is in the cul-de-sac. Recovery must occur after the uterus is replaced anteriorly.

Vaginal bleeding, usually tempo-

(Continued on page 70)

1950 Cortone® 1952 Hydrocortone®
1954 Aflakrone® 1955 Delta®

'Hydeltra' tablets

(PREDNISOLONE, MERCK) 2.5 mg.—5 mg. (scored)

the delta₁ analogue of hydrocortisone

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DIVISION OF MERCK & CO., INC.

Indications: *Rheumatoid arthritis*
Bronchial asthma
Inflammatory skin conditions

HELPFUL HINTS

Food Laxative

Makes Bedtime Drink

For Constipated Children

Dear Doctor:



Pediatricians report good results with Malt Soup Extract for constipation in children, especially preschool children. It is often administered in warm milk at bedtime.

Two tablespoonfuls of Malt Soup Extract dissolve rapidly in a glass of warm milk. This makes a pleasant "malted" with mild laxative properties.

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Stanley Olson
BORCHERDT MALT EXTRACT CO.



**FOR HARD, DRY STOOLS OF
Constipated Babies**

Borcherdt

**MALT SOUP
Extract***

A gentle laxative modifier of milk. Just 1 or 2 tablespoonfuls in day's formula softens stools, usually over night. Promotes aciduric bacteria. Grain extractives and potassium ions contribute to gentle laxation. Safe and easy to use.

GOOD FOR GRANDMA, TOO!

Especially valuable for thin, under-par elderly patients with hard, dry stools. Supplies nutritional factors from rich barley malt. DOSE: 2 Tbs. A.M. and 2 Tbs. P.M. until stools are soft, then 1 or 2 Tbs. P.M. Take in coffee or milk.

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*Specially processed malt extract neutralized with potassium carbonate. In 8 oz. and 16 oz. bottles.

Doctor: Here's a new kind



KLING conform Bandage is a natural
cotton gauze bandage. It's soft, light,
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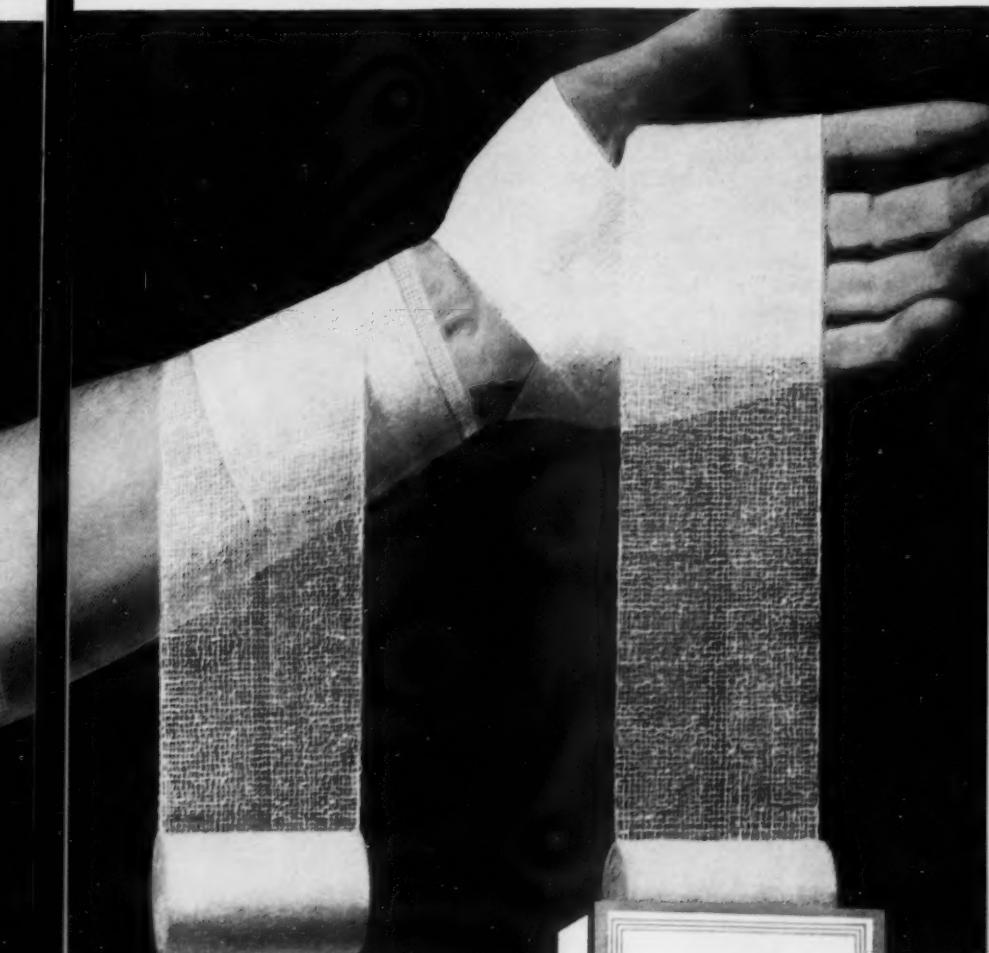
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to itself!

There's no adhesive, yet it
adheres to itself because of its
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Conforms
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Follows the contours of any
body area smoothly. Special
weave makes it elastic.

nd of cotton gauze bandage!



Stretches
without binding!

Holds gently but firmly. Does
not constrict tissues. Will
stretch as much as 40%.



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rary in nature, may occur after injury to female genital organs without much evidence of pathologic change on pelvic examination. When the condition persists longer than 2 menstrual cycles, organic disease and infection should be eliminated before trauma is established as the cause.

Menstrual aberrations may be caused by psychologic as well as physical influences. Many claims for hysterectomies are unnecessary. In claims for hysterectomy or oophorectomy, careful examination is necessary, since old infections or previous inadequate operations are frequently the cause of symptoms ascribed to recent injury.

Uterine prolapse, cystocele, and rectocele are not caused by sudden

increase in intraabdominal pressure. To substantiate a claim, evidence of tissue damage to the anterior and posterior vaginal vault should be found.

Stress incontinence is common, and claims should be based on tissue damage in the area.



Triple Immunizing Agent

- Quick, effective immunity to Diphtheria, Tetanus, and Pertussis.
- Fewer and less severe reactions.
- Contains PUROGENATED® Toxoids, Aluminum Phosphate—Adsorbed.

Free—Immunization Records that you can offer to parents. Ask the Lederle Representative or write.

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Doctor to Doctor

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent \$5. The Nov. 1 winner is

*Kevin Hill, M.D.
Belgrade Lakes, Me.*

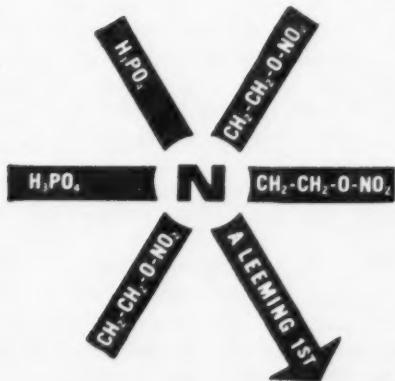
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No. 2

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Minneapolis 3, Minn.



*"He wouldn't pay his bill, so I wrote up his case
and sold it to 'Medic.'"*

Angina pectoris prevention



Most efficient of the new long-acting nitrates, METAMINE prevents angina attacks or greatly reduces their number and severity. Tolerance and methemoglobinemia have not been observed with METAMINE, nor have the common nitrate side effects such as headache or gastric irritation. Dose: 1 or 2 tablets after each meal and at bedtime. Also: METAMINE (2 mg.) with BUTABARBITAL (1/4 gr.), bottles of 50. THOS. LEEMING & CO., INC., 155 EAST 44TH STREET, NEW YORK 17, N.Y.

unique amino nitrate

Metamine.

triethanolamine trinitrate biphosphate, Leeming, tablets 2 mg.

Bottles of 50 and 500

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LUXOR ALPINE
LAMP**



**Invaluable Aid
in Effective
Treatment of Psoriasis**

The Goedeman technique (crude tar and ultraviolet radiation) is very helpful in many cases. Ultraviolet light produces a definite chemical change in the tar. This combination is reliable and effective.

In hospitals, in offices, Hanovia's Luxor Alpine lamp has proven an invaluable aid in treatment of lupus vulgaris. Exposure of the lesions of erysipelas, and wide area of surrounding tissue, has been shown to have beneficial effect. Markedly beneficial too, in treatment of acne, vulgaris, pityriasis rosea, impetigo, dermatitis herpetiformis, furunculosis, herpes zoster, circumscribed and disseminated neuro-mucitis and indolent ulcers.

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**Air-Cooled
Ultraviolet Lamp for
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Cooled by air instead of water, using new principles of aero-dynamics, the Hanovia Aero-Kromayer Lamp provides the most minute and accurate control of any required degree of clinical actinic reaction on skin surfaces or within the body cavities. A very intense source of focused ultraviolet energy, the Hanovia Aero-Kromayer Lamp can produce a first-degree erythema in 2 seconds when in contact with the average untanned skin.

YOURS ON REQUEST: Authoritative treatises describing ultraviolet in various conditions. Write for your brochures today. No obligation.

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Organization, Activities Required of Hospital Staffs for Accreditation

**ALEX M. BURGESS, SR., M.D.,
Providence, R.I.**

*If a hospital staff is skilled and experienced and possesses the right spirit and intentions, many plant and financial shortcomings can be overcome.**

FINAL judgment as to accreditation of a hospital depends on staff activities. The physicians must have skill, be faithful to duty, and be organized to provide self-discipline and critical evaluation of work.

The Joint Commission on Accreditation of Hospitals requires that the staff have responsible officers, adequate by-laws, and a meeting once a month with at least 75% attendance. Each doctor must attend at least 75% of the meetings. In a large hospital where conferences are held by separate services, meetings of the entire medical staff should be held four times a year.

When a hospital is departmentalized, each service should have a chief and the activities of each service should be accurately defined. Section meetings should be held and records kept.

The accreditation board stipulates that the staff have executive, credentials, joint conference, medical records, and tissue committees.

*What makes a good hospital? Rhode Island M. J. 38:143-146, 178, 1955.



to restore appetite and promote weight gain

LACTOFORT

FOR RELUCTANT FEEDERS

- In infants with persistent anorexia, improvement in appetite is commonly noted within five days.

LACTOFORT — with the amino acid L-lysine • A Pediatric First

Lactofort is the first and only pediatric dietary supplement to provide adequate quantities of *growth-essential* lysine for appetite stimulation and weight gain.

Lactofort improves the protein quality of milk to a point where it approximates that of high-quality meat.

WITH LACTOFORT SUPPORT

- markedly improved appetite
- rapid weight gain
- normalized growth rate

2 measures (2.3 Gm.) of Lactofort supply:

L-Lysine	500 mg.
(from L-lysine monohydrochloride)	
Vitamin A acetate	3750 U.S.P. Units
Vitamin D	1000 U.S.P. Units
Thiamine mononitrate	0.75 mg.
Riboflavin	1.25 mg.
Niacinamide	7.5 mg.
Vitamin B ₁₂	2.5 mcg.
Folic acid	0.25 mg.
Ascorbic acid	75 mg.
(from sodium ascorbate)	
Pyridoxine hydrochloride	0.75 mg.
Calcium pantothenate	7.5 mg.
Iron ammonium citrate green	50 mg.
(elemental iron 7.5 mg.)	
Calcium gluconate	1.45 Gm.
(elemental calcium 130 mg.)	

Supplied: In 46 Gm. bottles with special Lactofort measuring spoon enclosed.

*a dry powder of stable potency —
odorless • tasteless • readily soluble*

WHITE LABORATORIES, INC., Kenilworth, N. J.

The joint conference committee is made up of members of the medical staff, administrators, and trustees. Adequate medical records are essential, especially for lawsuits or when a patient is readmitted. The tissue committee reviews the surgical diagnosis when tissue is removed.

Useful committees, advisable especially in large institutions, are an education committee, a research committee to encourage investigations and insure publication of interesting case histories, a tumor board, and a journal club to review medical literature.

The standard on consultations has been revised. Except in emergencies, consultation is now required for all first cesarean sections,

curettages, or other procedures which may interrupt a known or suspected pregnancy and for sterilization operations. Consultation is desirable before major surgery if the patient is a poor risk or if diagnosis or therapeutic measures are in doubt.

Consultation should involve examination of patient and records and a written signed report. Except in emergencies, the consultation report should be recorded before operation.

Of the 404 questions that are asked of a hospital administrator and staff by the field representative of the Joint Commission on Accreditation of Hospitals, 115 pertain to the medical staff and 61 to medical records.

FAT INTOLERANCE

The recommended dosage is 1 tablespoonful of CHOLOGESTIN or 3 TABLOGESTIN tablets in cold water after meals.

Lack of bile is the most common cause of fat intolerance. CHOLOGESTIN is the best prescription.

CHOLOGESTIN increases the flow and secretion of bile, helps digest fats, and relieves the symptoms of "bilious" indigestion. Contains salicylated bile salts, the most effective choleric and cholagogue.

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Please send me free sample of TABLOGESTIN together with literature on CHOLOGESTIN.

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minimize
adrenal
suppression
and
atrophy



BY THE REGULAR PERIODIC USE OF

HP*ACTHAR[®] Gel

Stress of surgery, accidents or infections is magnified in patients treated with cortisone, hydrocortisone, prednisone or prednisolone. Adrenal steroids, even in small doses, jeopardize the defense mechanism against stress by causing adrenal cortical atrophy. Concomitant use of HP*ACTHAR Gel counteracts adrenal atrophy by its stimulant action on the adrenal cortex.

Dosage recommendations for supportive HP*ACTHAR Gel are, inject:

- 1 a. 100 to 120 U. of HP*ACTHAR Gel for every 100 mg. of prednisone or prednisolone.
b. 100 U. of HP*ACTHAR Gel for every 200 to 300 mg. of hydrocortisone.
c. 100 U. of HP*ACTHAR Gel for every 400 mg. of cortisone.
- 2 Discontinue use of steroid on the day of injection.

*Highly Purified. HP*ACTHAR Gel is The Armour Laboratories brand of purified corticotropin.



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*M. R. Kinde, M.D.
Battle Creek, Mich.*

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MODERN MEDICINE
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Minneapolis 3, Minn.



*"The fact that she has piles doesn't belong in
the financial record!"*

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SUMMIT, N. J.

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It up
with**

Pyribenzamine®



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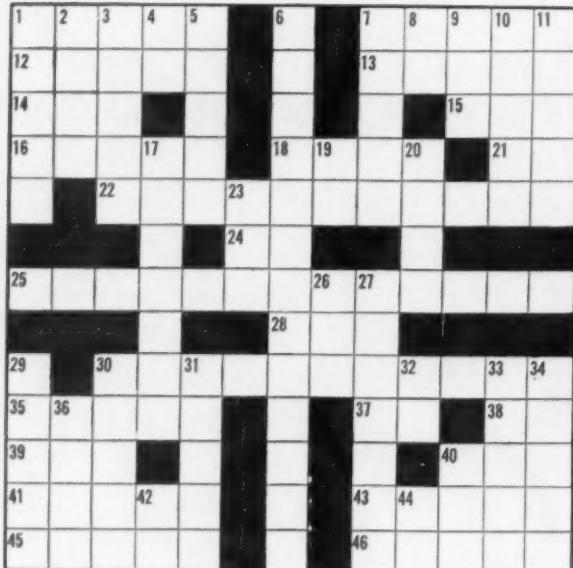
with Ephedrine

Medical Crossword

Solution on page 268

HORIZONTAL

1. Blood corpuscle
7. Escharotic mixture
12. A carbohydrate
13. Phytotoxin
14. No appreciable disease (abbr.)
15. Give of such a dose (Latin abbr.)
16. An antiseptic solution from eupad
18. Metallic element
21. Prefix meaning back
22. Volhynia fever
24. Each eye (Latin abbr.)
25. Rudimentary skin of the embryo
28. Fatty liquid
30. Forming an artificial opening into the colon
35. Organic compound containing nitrogen

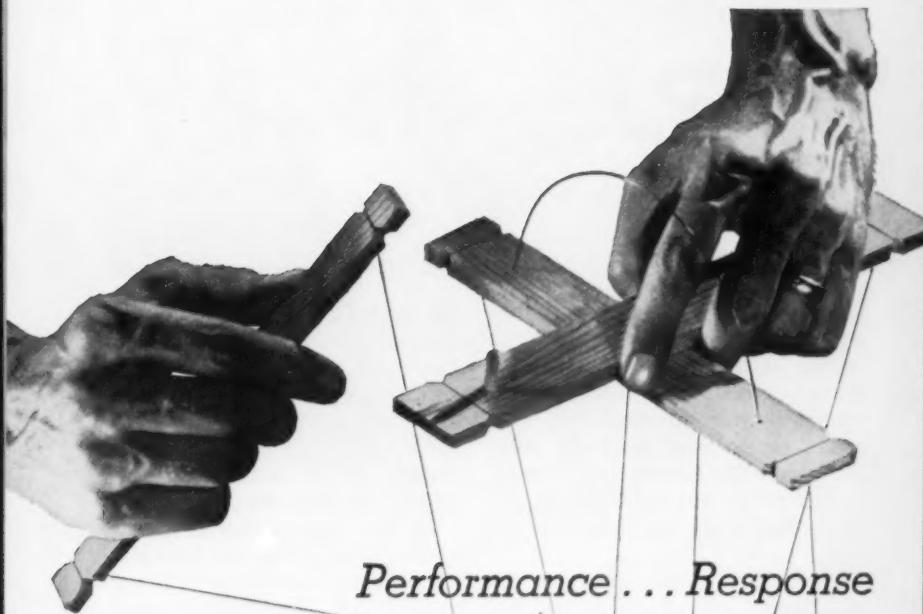


VERTICAL

1. Mel
2. Son of Isaac
3. Middle
37. Urine (abbr.)
38. Symbol for tin
39. Such a one (Latin abbr.)
40. Axiolinguoclusal (abbr.)
41. Atebrin
43. Engaged
45. — formula for the computation of basal metabolism
46. Condition
4. To (Latin)
5. Clear area in the center of a stained erythrocyte
6. Disease of nerve roots
7. Result of evidence
8. Sloth
9. Doctor of Science (abbr.)
10. Strength of a certain solution
11. —matic; acting by absorption through the skin
12. Dignified speech
13. Blood factor
14. Cattle of the ox kind
23. The head (slang)
26. The earth's atmosphere
27. Casts off
29. Liquid
30. The eyelashes
31. Inclines
32. Chromium (abbr.)
33. Cluster of cells
34. Positive pole of a galvanic battery
36. Zebra (female)
40. —binulose: a ketopentose
42. Right eye (Latin abbr.)
44. Neuter pronoun

Do you enjoy the Medical Crossword?

The Editors are interested in your reaction to the Medical Crossword. If you would like to have the feature appear regularly, please write The Editors, Modern Medicine, 84 South Tenth Street, Minneapolis 3, Minn.



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Salcort performance stimulates a dependable response in arthritic conditions; early functional improvement and a sense of well being are significant. Smaller doses of salicylates and cortisone combined produce a therapeutic response equivalent to that of large doses of cortisone . . . side reactions are eliminated and continuous therapy is permitted. Salcort presents no withdrawal problems.

Each tablet contains:

Cortisone Acetate	2.5 mg.
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Calcium Ascorbate	60 mg. (equivalent to 50 mg. Ascorbic Acid)
Calcium Carbonate	60 mg.

*U. S. Patent No. 2691662

professional literature and sample
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THE S. E. MASSENGILL CO., BRISTOL, TENN.



Washington LETTER

Washington's Interest Revives in Problems of Aging

THERE are some indications that the country again may be taking an interest in the problems of the aging population. The evidence is not enough to warrant much real optimism, but at least there are more stirrings in the federal departments, in Congress, and in a few of the states than there have been for five years.

Medical problems are not the only ones faced by old people, but medicine is peculiarly involved. Some of the Malthusians among the social planners say the medical profession is responsible for all the trouble, and should find most of

the answers. They argue that if the doctors and researchers had not done such a fine job in controlling diseases so many people wouldn't be living so long and the few that were left could be taken care of easily. So the doctors can worry about the old folks.

A few representatives and senators are worrying, too. Last session 10 bills were presented to Congress urging that something be done to make life healthier and happier for the aging population: 8 of them proposed various types of commissions to study the situation, and I recommended an immediate start on the job by means of federal grants to help the states set up services for the aging.

Nothing was done on these bills last session, possibly because so much time was wasted on futile argument over what to do about Salk poliomyelitis vaccine. Ives, Potter, and Wiley are among the important senators interested in action and some of the Democratic leaders also want the federal government to move. As a result, hearings, at least, will probably be held next session, and some legislation may pass.

Senator Ives' idea is to set up a 25-member fact-finding commission to look into "problems stemming



"I welcome the change; most of my male patients have a mother complex but you've got a complex mother."

in peptic ulcer

piperidol
action-

favors
healing

cholinolytic

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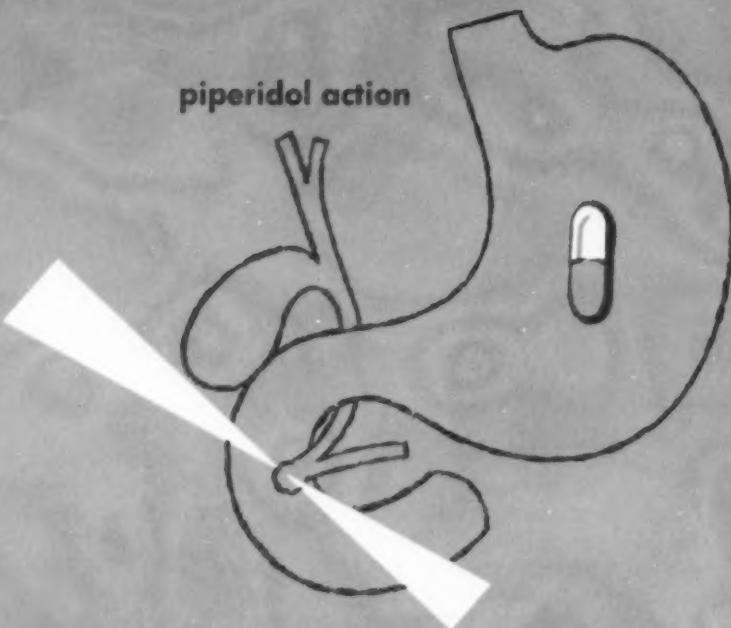
- relief day and night with 1 tablet t.i.d.
before meals and 1 or 2 tablets at bedtime
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in the upper gastrointestinal area

visceral eutonic

DACTIL

PLAIN AND WITH PHENOBARBITAL

relieves pain \neq spasm usually in 10 minutes

prompt action at the site of visceral pain

prolonged control relieves up to four hours

no interference with digestive secretions,
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from the increasing proportion of aging persons . . . and to develop remedial measures including, but not restricted to, care and services in the home, use of foster home facilities, recreation centers, and provision of institutional facilities for the chronically ill."

The commission would be made up of the secretary of Health, Education, and Welfare, 14 persons appointed by the President, 5 by the Vice President, and 5 by the speaker of the House. The commission would have to finish its job and make recommendations in about a year and a half.

Senator Potter (and 6 Representatives) want a smaller commission, and one that would emphasize the "better integration of the aged and

the aging in the social and economic life of the nation." A third idea for a commission would have the study directed at specific areas, including "the physical and mental aspects of aging."

Senator Wiley is urging the federal grant program. It would provide \$2 million for planning the first year, \$10 million for grants the second year, and whatever was needed for three more years. At the end of five years Congress would review the work and decide whether the federal government should stay in the field or turn the responsibility over to the states.

Under this bill the appropriation would be divided among the states according to the number of aged in each state. As long as a state's

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allocation lasted, it would get federal money on the basis of \$1 for every state dollar spent. Among other things, the state programs would develop cooperation between state institutions and health agencies and welfare groups, stimulate technical training of specialists, and encourage research.

Another bill would revive Oscar Ewing's scheme of free hospitalization (limited to sixty days annually) for old persons receiving or eligible for social security benefits.

In 1951, following a White House Conference on problems of the aging, a federal interdepartmental committee was set up, and for a time great things were expected of it. However, the higher-ups quickly lost interest. For three years the

committee had to carry on its work of stimulating interest in these problems with a staff of 3 and almost no budget. But Clark Tibbitts, committee chairman, continued to struggle along. He was rewarded this year with a more realistic appropriation and a staff of 9.

Despite all handicaps, the committee apparently had some success. About half a dozen states are now definitely at work on their own programs, and appear willing to expand the work with or without federal help. They are New York, California, Massachusetts, Connecticut, Rhode Island, Maine, and Washington.

The committee right now is making an inventory of these and the other states, to see specifically what

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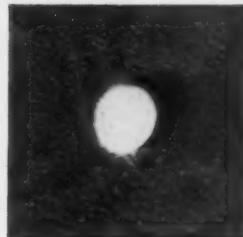
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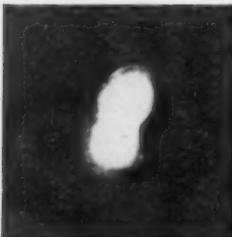
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is being done, what programs have worked, and what have been failures. When this information has been collected and analyzed Mr. Tibbitts hopes it will stimulate more state action.

Mr. Tibbitts' committee, once representative of a number of federal departments, now functions solely as a part of the Department of Health, Education, and Welfare.

Another development last year was the formation of a U. S. Interdepartmental Work Group. Participating are the Veterans Administration, Department of Labor, Department of the Interior, Office of Defense Mobilization, Civil Service Commission, Commerce Department, Agriculture Department, Housing Administration, and Small

Business Administration. This group is meeting regularly and is cooperating with the Tibbitts committee.

The philosophy behind this committee is that provision for the aged is not a federal but a state and community responsibility. Mr. Tibbitts and his staff act as a clearing house for new information and attempt to stimulate states, but the committee has no federal funds for grants. Next year should tell whether Congress wants to continue this moderate type of operation or prefers to hurry up the work by dangled federal money in front of the states.

Washington Notes

¶ Virtually all states are now lined up for the federal "waiver of pre-

effectiveness for the arthritic patient-

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mium" program. This insures that a worker covered by Old Age and Survivors' Insurance will not suffer ultimate loss of pension rights because of the years when he is disabled and not employed.

¶ To encourage private research in medical and other uses of isotopes, the Atomic Energy Commission is relaxing regulations and making nuclear material available at less cost.

¶ New regulations of the Food and Drug Administration regarding release of new drugs put new restraints on both FDA and the drug industry. For example, FDA can't stall on applications or the manufacturer can move anyway, getting court help if necessary to pry out a decision. And, among other things, a manufacturer must include in his

report to FDA on new drugs all information available, even if damaging. If the manufacturer censors some of his own facts, he is liable to loss of his license.

¶ Office of Defense Mobilization is concerned that there is no basic plan for handling health manpower, facilities, and supplies in the face of a national emergency. It says demonstrations so far conducted highlight the need for better medical preparedness.

¶ Under a new program, the Veterans Administration is attempting to move more of its domiciliary patients back into their homes and home communities. However, VA is still making certain that the patient's medical care is not interrupted.

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*Rowe, Albert, Jr. and Rowe, Albert, H., *Cal. Med.* 81:279 (Oct.) 1954

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Corynebacterium xerosis
Diphlococcus pneumoniae
Gaffkya tetragena
Micrococcus (*Staph.*)
pyogenes var. *albus*
Micrococcus (*Staph.*)
pyogenes var. *aureus*
Mycobacterium tuberculosis
Streptococcus faecalis
Streptococcus pyogenes
(hemolyticus)
Streptococcus mitis
(*viridans*)

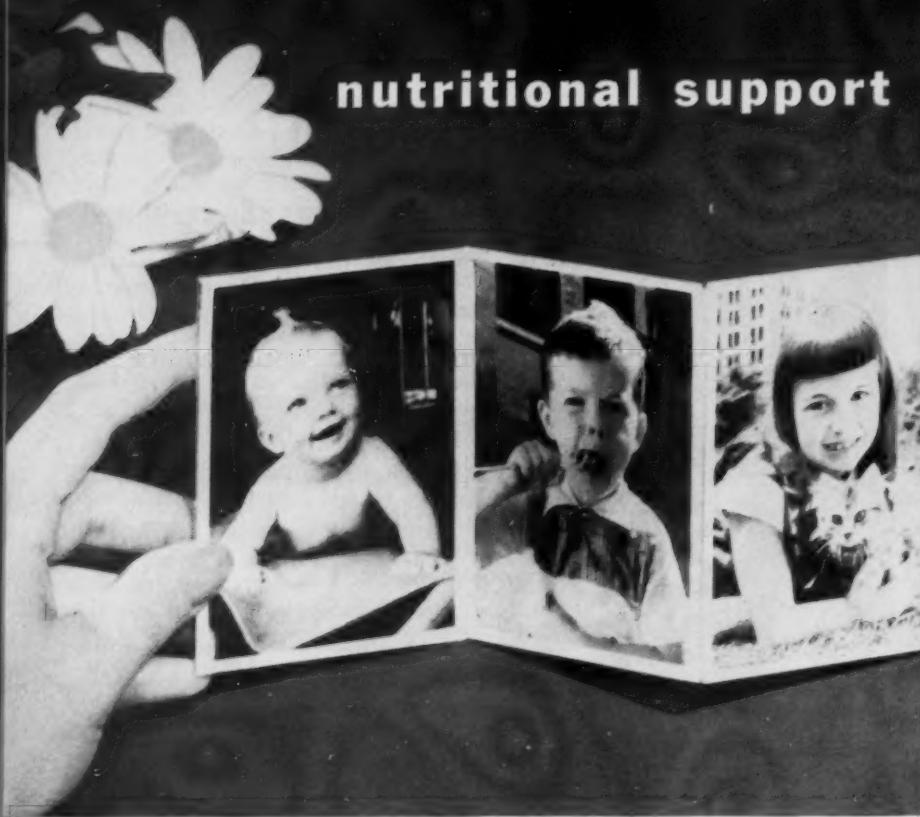


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THE
EDITOR'S
PAGE

by WALTER C. ALVAREZ, *Editor-in-Chief*

Spells of Hypoglycemia

For years, the diagnosis of functional hypoglycemia has been popular but often hard to confirm. In scores of cases in which this diagnosis has been made, the chemists in university laboratories have found normal blood sugar. In a few instances, the amount was 70 or 75 mg. per cent, but this was not low enough to produce symptoms. Years ago when Dr. Edward Rynearson took large doses of insulin to lower his blood sugar, he did not have symptoms until the titer was around 50 mg. per cent.

Often in a particular case, the diagnosis of hyperinsulinism can be excluded by bringing out the fact that the symptoms appear irregularly, not just in the early morning hours when the blood sugar drops to its lowest levels. Often one learns also that the spells sometimes clear away when no carbohydrate is eaten, or they clear after a bit of rest or the taking of a cup of black coffee or an aspirin tablet. In some cases questioning reveals that the spells are those of migraine or of the well-known 10 A.M. fatigue.

At the Atlantic City meeting of the AMA, Dr. Brock E. Brush had a good exhibit on true hyperinsulinism. On the side of his chart, he listed blood sugar beginning at 55 mg. and running down to 10 mg. Opposite these readings he noted what symptoms tended to appear. In serial order, from above down, these were weakness, fatigue, and pallor; headache, hunger, sweating, numbness, diplopia, blurred vision, incoherence, and disorientation; syncope, convulsions, and coma.

In the first patient seen years ago with true hyperinsulinism due to carcinoma of the islets, the man's wife had to sit beside

EDITORIALS

his bed as he slept so that when he started twitching she could give him a few mouthfuls of syrup.

According to Whipple, a person with an islet-cell tumor has [1] insulin shock while fasting or when very tired; [2] blood sugar reading of 50 mg. per cent or less; and [3] fairly prompt relief after eating some sugar.

I am not saying that there is no such thing as functional hyperinsulinism; all I am saying is that in most cases of supposed functional hyperinsulinism it is impossible to confirm the diagnosis in either the clinic or laboratory.

Hodgkin's Disease Apparently Due to a Virus

For years it has been suspected that Hodgkin's disease is due to a virus, and a while ago, although nothing could be cultured from juice expressed from involved nodes, something was found in this juice that would interfere with the growth of another virus.

Now Dr. Warren Bostick of the University of California has found that juice from involved nodes injected into newborn mice quickly causes death from a virus type of disease. These suckling mice apparently do not have the resistance to the virus that older animals have. They die before tumors can develop. Perhaps by transplanting the virus from one animal to another, the chronic disease, such as is seen in man, can be produced.

The Need for Proctoscopic Examinations

As Dr. Marden Black recently pointed out, many physicians today fail to diagnose a carcinoma of the rectum because they depend only on the roentgenologic examination, which commonly fails to show a flat, leaflike rectal lesion. The physician should remember that 2 of 3 rectal lesions can be felt with the examining finger. In all suspicious cases, and in every case in which an elderly person is having a check-up, an examination must be made also with the sigmoidoscope.

Dr. Black went on to remark that today, with the help of more skillful surgery and the use of antibiotics, the immediate mortality of operations for rectal carcinomas has been reduced to 4%. He might have added that some thirty-five or forty years ago the mortality was somewhere between 25 and 50%.

Management of Steatorrhea

C. R. ST. JOHNSTON, M.D.

United Birmingham Hospitals, England

*Patients with steatorrhea should receive diets high in proteins and calories and low in fats, supplements of factors poorly absorbed, and, when disease is severe, ACTH or cortisone.**

INADEQUATE fat absorption is the main feature of steatorrhea. Stools are fatty or greasy and often frothy or bulky; ingestion of fat aggravates symptoms. Measurement of fat in the stool is useful for diagnosis and gauging progress. Protein absorption is also poor and may cause edema.

The basic diet should include 100 gm. protein and 50 gm. fat daily. High protein intake is more palatable and less expensive if a casein hydrolysate is mixed with milk, puddings, soups, gravies, or sauces.

In many instances of celiac disease in children, a form of steatorrhea, and among some adults with steatorrhea, the glutens of wheat flour cause excessive mucus and are poorly absorbed. Every patient should try a wheat-free diet, using gluten-free starch.

Cortisone and ACTH produce pronounced improvement in the absorption of fats and of electrolytes and an immediate increase in well-being and appetite. Diarrhea is relieved also.

Any secondary manifestations are caused by malabsorption of various substances. Effects of each deficiency and maintenance therapy are shown in the table.

Since iron and vitamin B₁₂ are lacking, anemia is a common manifestation. When anemia is unexplained, fat balance should be investigated. Anemia with steatorrhea is generally macrocytic but may be hypochromic. Pernicious anemia may be diagnosed. Treatment with intravenous iron may sometimes be necessary.

Although skin changes and xerophthalmia are rare, supplementary vitamin A should be administered with vitamin D.

Tetany is revealed by cramplike pains and carpopedal spasm. Carpal spasm can be produced by applying a tourniquet to the arm. Chvostek's sign, twitching of the facial muscles when the skin over the facial nerve is tapped, may be positive.

Vitamin B complex deficiency is prominent in untreated steatorrhea. Lack of nicotinic acid causes a sore, smooth, shining, raw-beef colored tongue and pellagra. Nicotinamide, 150 mg. a day, is prescribed for patients with steatorrhea. In an acute phase with excessive diarrhea, dosage may be increased.

Degenerative brain changes, such as Wernicke's encephalopathy, may

*Management of steatorrhea in general practice. M. Press 234:175-178, 1955.

Deficiencies with Steatorrhea

Deficiency	Effect	Treatment
Protein	Malnutrition Low serum proteins—edema	High-protein diet, 100 gm. daily Protein additives
Calcium	Osteoporosis—spon- taneous fractures Tetany Rickets (in children)	Calcium gluconate, 10 cc. of a 10% solution intramuscularly Calcium lactate } 30 gr. of each Calcium phosphate } three times daily Calcium carbonate } Vitamin A, 6,000 to 8,000 units daily
Vitamin A	Skin changes Xerophthalmia	
Vitamin D	Calcium deficiency, as above	Vitamin D (calciferol), 15,000 to 20,000 units daily
Nicotinamide	Pellagraous changes Glossitis	Nicotinamide, 50 mg. three times a day
Riboflavin	Glossitis Cheilosis	Riboflavin, 15 mg. daily
Vitamin K	Low prothrombin level in blood Spontaneous hemorrhages	Vitamin K, 5 to 10 mg. daily
Vitamin B ₁₂	Macrocytic anemia	Vitamin B ₁₂ as required
Folic acid	Macrocytic anemia Glossitis	Folic acid, 10 to 30 mg. daily
Iron	Hypochromic anemia	Ferrous sulfate, 6 gr. three times a day. Intravenous iron as required

result from long-continued avitaminosis B, so 10 mg. three times daily of vitamin B₁ is also prescribed.

In severe diarrhea, potassium as well as sodium and chloride may be deficient. Adequate salt should be included in the diet; and during periods of severe diarrhea, 30 gr. per day of potassium chloride should be administered.

Volvulus should be watched for when abdominal distention, acute pain, and constipation occur. Megacolon may result from prolonged, severe distention.

Tropical sprue, a-type of steatorrhea, may be eliminated by 30 to

50 mg. of folic acid by mouth daily. Fat absorption is improved when sulphasuccidine, Aureomycin, and Chloromycetin are administered in separate five-day courses, each drug overlapping the preceding agent for one day.

For pancreatic steatorrhea, 5 to 10 gr. of pancreatin in milk with meals should be prescribed.

With gastrojejunocolic fistula, a complication of peptic ulcer resection, soiling of small bowel with colonic contents causes malabsorption. Colostomy proximal to the fistulous opening in the colon is essential in preparation for surgical repair.

Problems after Myocardial Infarction

RAYMOND D. PRUITT, M.D.

Mayo Clinic, Rochester, Minn.

*Moderation in diet and physical activity and control of emotional stress are important factors in rehabilitation of patients with myocardial infarction.**

ANTICOAGULANT therapy is desirable in all new infarcts and is safe when adequate laboratory controls are available. The selection of patients for anticoagulant therapy on the basis of a good-risk or bad-risk classification requires expert judgment.

Prevention of thromboembolic complications by long-term anticoagulant therapy has not been evaluated. The risk of treatment with anticoagulants precludes routine use. Long-term therapy should be reserved for patients who have had emboli.

Despite extensive studies on the role of lipid metabolism in atherosclerosis, no specific diet can be recommended for patients with coronary artery disease. Reducing diets should be prescribed for obese patients. Young patients with elevated blood lipids should restrict fat. Lipotropic substances such as sitosterol may have some value in reducing serum cholesterol. Sodium should be curtailed only with evidence of impending or frank congestive heart failure.

Tobacco is another subject of controversy. Evidence that smoking shortens life expectancy is inconclusive, but tobacco is obviously not beneficial. The decision may be left to the patient after the facts have been explained. Excessive smoking is evidence of undesirable emotional tension which should be investigated and eliminated.

The period of bed rest in acute myocardial infarction is variable. Rest is essential for an acutely ill patient and is not harmful if anticoagulants are used. Conversely, an elderly patient with a slight infarct may do best if allowed up in a chair from the beginning. Three weeks of bed rest are desirable for most patients. Q waves in the electrocardiogram, fever, leukocytosis, and shock indicate extensive myocardial damage. When electrocardiographic changes involve only the ST segment and T wave, the period of rest in bed may be shortened.

Physical activity after myocardial infarction is individualized. Any exertion which provokes angina pectoris or dyspnea is avoided, and strenuous exertion such as shoveling snow or mowing the lawn is prohibited. Walking, golf, hunting, and fishing may be permitted in moderation.

Mental stress may be as damag-

*After myocardial infarction, what? J. Iowa M. Soc. 45:219-224, 1955.

ing as physical overactivity but is more difficult to control. Duties involving excessive emotional tension should be avoided. If heavy responsibility is inescapable, a change of occupation should be advised.

Fear is almost universal after myocardial infarction and may be incapacitating. The patient should be assured that coronary sclerosis

is not an inevitably progressive disease and that useful life is possible after infarction. Explanation will help the patient to differentiate insignificant palpitations and neuromuscular pains from cardiac symptoms.

Sympathy, understanding, and the physician's time are essential to curtail fear and aid the adjustment of the patient to the disease.

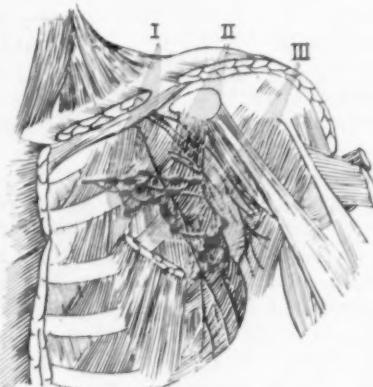
Axillary Node Levels in Breast Carcinoma

JOHN W. BERG, M.D., MEMORIAL CENTER FOR CANCER AND ALLIED DISEASES, NEW YORK CITY, states that metastases from breast carcinoma do not involve the axillary nodes as a unit but progress from level to level. Level I includes nodes lateral and inferior to the pectoralis minor muscle; level II, nodes behind the pectoralis minor; and level III, the few nodes medial and superior to the muscle (see illustration).

The progression of metastases can be used to estimate the probability of cancer extending beyond the limits of the operative field. The evaluation of probable prognosis has logical and statistical validity when the highest level of axillary involvement and the size of primary carcinoma are considered together. For instance, carcinomas with level II metastases had an overall three-year death rate of 26%. When the primary cancer was less than 4 cm. in diameter, however, the mortality was only 17%; when the diameter of the primary was 4 cm. or more, the three-year mortality rose to 47%.

For a carcinoma of a given size with axillary metastases limited to level I, the prognosis is essentially the same as if no malignant axillary nodes are found.

The significance of axillary node levels in the study of breast carcinoma. *Cancer* 8:776-778, 1955.



Cutaneous Signs of Heart Disease

JACOB J. SILVERMAN, M.D., AND ARTHUR BERNSTEIN, M.D.

Staten Island Hospital, N.Y.

*Careful inspection of the skin aids in the diagnosis of many types of cardiac disease.**

DESPITE the number of laboratory aids available for studying heart disease, the simple observation of changes in the skin should not be neglected. Suggestive or even characteristic skin changes occur in a variety of heart diseases and in conditions associated with cardiac disorders.

Emotional upsets are almost always reflected in the skin. Pale skin, tense muscles, wrinkled brow, and sweating of the palms, soles, and axillae are important signs of tension. The hands and feet are cold and moist. Tremors, tobacco-stained fingers, and chewed fingernails are also suggestive.

External congenital anomalies, such as accessory nipples, hemangioma, harelip, and spina bifida, are frequently associated with heart anomalies. Over 25% of children with mongolism have congenital heart disease, usually septal defects.

Cyanosis is not associated with all forms of congenital heart disease and may appear late with the Eisenmenger complex or interauricular septal defects. Distribution of cyanosis may afford clues to diagnosis. Patent ductus arteriosus

with high pulmonary artery pressure and reversal of blood flow results in cyanosis of the lower extremities. Transposition of the great vessels tends to cause cyanosis in the upper half of the body.

Clubbing of the fingers is rare before 2 years of age and is usually preceded by cyanosis. Clubbed fingers without cyanosis in a patient with congenital heart disease may be indicative of bacterial endocarditis or pulmonary disease.

A number of cutaneous signs may point to bacterial endocarditis. Petechiae, clubbed digits, and splinter hemorrhages under the nails may be seen. Pallor is common, and the skin may have a *café au lait* tint. Osler's node, a pathognomonic sign of subacute involvement, is a red, tender nodule that appears on the finger tips and footpads, beneath the nails, or on the thenar and hypothenar eminences. Janeway spots are nonpainful erythematous patches on the palms and soles and are seen frequently with acute bacterial endocarditis.

Several endocrine disturbances cause reversible forms of heart disease and are frequently manifested in the skin. Smooth, satiny, warm, moist skin suggests hyperthyroidism. Pigmentation is increased, and excessive sweating, vitiligo, urticaria, angioneurotic edema, and lo-

*The cardiologist looks at the skin. J.A.M.A. 158:821-827, 1955.

calized areas of myxedema in the pretibial regions may be seen.

In contrast, with hypothyroidism, the skin is dry, rough, and cold and often has a yellow tint. Moles are frequent, and dry, scaly lesions resembling ichthyosis are seen on the lower extremities.

Characteristic pigmentary deposits appear with adrenocortical hypofunction. Hyperpigmentation occurs chiefly over extensor surfaces of the body, over pressure points, in the anogenital region, over the areola, and in scars. Vitiligo is sometimes seen, and skin around such areas is often hyperpigmented.

Endocrine hypertensive syndrome should be differentiated from more serious forms of hypertension and adrenocortical hyperfunction. Obesity occurs in a peculiar distribution and is characterized by a large panniculus, a buffalo hump, and heavy buttocks, thighs, chest, and upper arms. Hirsutism is common. Ecchymoses and acne may also be seen.

Hypertensive diencephalic syndrome is usually observed in patients with neurogenic hypertension. Extremities are cold and clammy and later become cyanotic, pale, or mottled. Excessive sweating is common. A blotchy, erythematous rash characteristically appears on the face, neck, and upper chest.

Skin manifestations are frequent with *metabolic disorders* associated with coronary disease. Localized, sharply demarcated, reddish plaques with yellowish atrophic centers are common with diabetes mellitus and sometimes with telangiectasia. Por-

phyria is frequently associated with hypertension and renal disease.

Liver disorders also may be attended by serious cardiovascular conditions. Jaundice, spider angiomas, and palmar erythema are typical cutaneous signs.

With *uremia*, the skin is a sickly yellow. With longstanding disease, the skin is dry and purpura is common.

The skin is frequently involved with diffuse *collagen diseases*, including disseminated lupus erythematosus, dermatomyositis, periarthritis nodosa, and scleroderma. Cutaneous eruptions occasionally develop during the course of *rheumatic fever*. The most typical rash is erythema marginatum, which starts as flat papules and spreads rapidly. The lesions fuse and intersect and are seen principally over the trunk and extremities.

The *shoulder-hand syndrome* accompanies myocardial infarction, and trophic and vasoconstrictive changes in the hands are often conspicuous. The skin is pink or red in the early stage and later becomes smooth, cold, and glossy.

Almost any *infectious disease* is capable of causing myocarditis, and many of these diseases are accompanied by revealing rashes. In addition, the earliest manifestations of *toxic* and *drug sensitivity reactions* are frequently observed in the skin.

An unusual diagnostic sign of *dissecting aneurysm of the aorta* is ecchymosis of the chest, abdomen, or lumbar areas. With *peripheral vascular disease*, pallor is a more or less constant finding of occlu-

sion of a major artery. Atrophy, sweat disturbances, infection, ulcerations, varicosities, and trophic changes in the nails and hair are observed.

With *congestive heart failure*, the skin is cold, the superficial veins

engorged, and the fingernail beds cyanotic. With high output failure, however, the skin may be warm and flushed. Abrupt appearance of cold, cyanotic, moist skin during illness is dramatic evidence of shock.

Action of Nitroglycerin in Heart Patients

HENRY I. RUSSEK, M.D., KARL F. URBACH, M.D., AND BURTON I. ZOHMAN, M.D., UNITED STATES PUBLIC HEALTH SERVICE HOSPITAL, STATEN ISLAND, N.Y., report that the unfavorable paradoxical action of nitroglycerin in some patients is due to the venous pooling of blood in the lower extremities. The venous pooling causes a diminished venous return to the heart with a resultant reduction in coronary blood flow.

The effect of varying doses of nitroglycerin upon the electrocardiographic response to standard exercise was studied in 158 patients with coronary disease and abnormal electrocardiograms. Of these, 16 patients showed electrocardiographic abnormalities with the usual sublingual dose of 0.4 mg. The electrocardiographic changes induced by nitroglycerin were similar to those recorded during the Master 2-step test.

To test the theory that venous pooling causes diminished venous return with resultant coronary blood flow, elastic bandages were applied to the lower extremities. The elastic bandages prevented the electrocardiographic changes produced by standing and those induced by nitroglycerin. In the horizontal position an abdominal binder had a more favorable effect.

The need for individualization of dosage became apparent. Some patients showing no significant improvement with 0.4 mg. responded favorably to larger doses. A few patients who reacted favorably to 0.4 mg. showed less good effect, or even a paradoxical response, with an increased dose. The best dosage level of nitroglycerin for most patients is 0.2 to 0.3 mg. The hypodermic tablet is preferable.

Large doses of nitroglycerin may be employed together with tourniquets to the extremities in congestive heart failure. The possible venous pooling in the lower extremities and the diminished venous return interdict the use of nitroglycerin in acute myocardial infarction. Overdosage during self-medication for severe angina pectoris may precipitate acute myocardial infarction.

Paradoxical action of glyceryl trinitrate (nitroglycerin) in coronary patients. *J.A.M.A.* 158:1017-1021, 1955.

Continuous Aerosol Therapy

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*Nebulization supplies humidified oxygen, thins secretions, and reduces obstructive factors in bronchial and pulmonary disease.**

BRONCHIAL obstruction is a primary cause of deficient aeration of the lungs in many pulmonary diseases. A number of factors contribute to obstruction. Mucosal edema may result from allergy or infection. Bronchospasm is common. Increase in the volume and viscosity of secretions and purulent exudate leads to retention of secretions and mucous plugs.

Nasal obstruction will frequently eliminate the normal means of humidifying air. Increased respiratory efforts and bronchial obstruction also dry the bronchial mucosa. The resulting viscid secretions impair ciliary action and bronchial drainage.

Reduction of edema and restoration of normal bronchial drainage are the primary objectives of continuous nebulization. An atmosphere supersaturated with water vapor is necessary since air with 100% relative humidity will not be saturated when warmed to body temperature in the lungs. The nebulized mist penetrates the terminal portions of the bronchial tree and

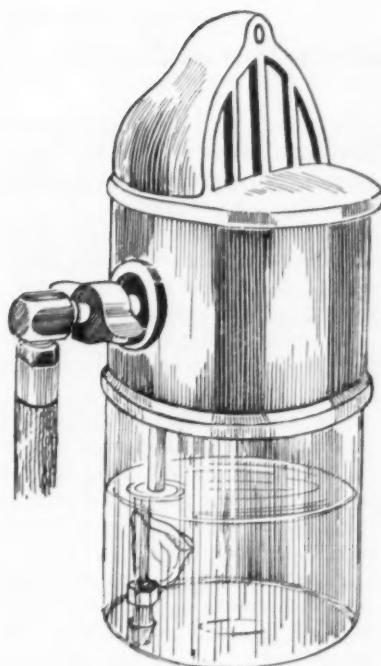
supplies moisture to liquefy secretions and to enhance the ciliary action.

Apparatus for continuous nebulization must produce a large volume of mist at low rates of oxygen flow. At least 1 cu. ml. of solution should be nebulized per minute, and the particle diameter should be between 1 and 10 microns. The materials must be durable and resistant to heat sterilization and must not react chemically with the aerosol solutions. Jets should be accessible and easy to clean, and performance should be reliable without constant supervision. Portability and low cost are desirable. The Mist-O₂-Gen nebulizer fulfills the criteria (see illustration).

In pediatric patients with laryngotracheobronchitis, bronchiolitis, and pneumonia, the nebulizer, used with an open-top oxygen tent, reduces the need for tracheotomy. The nebulizer may be used in conjunction with an incubator in premature infants.

A modified open-top oxygen tent is used with the aerosol device in adults. Aerosol therapy helps to evacuate purulent secretions of chest surgery patients and reduces the morbidity with acute respiratory infections. Nebulization is valuable in the treatment of postopera-

*The clinical use of continuous nebulization in bronchopulmonary disease. *Dis. Chest* 28:123-140, 1955.

Mist-O₂-Gen nebulizer

tive atelectasis and may be used prophylactically in the recovery room.

The Mist-O₂-Gen nebulizer may be adapted for use in many types of inhalation therapy. Patients with

pulmonary emphysema and fibrosis may use the aerosol at home with an oxygen tank and Bennett mask. Asthmatic patients may use the nebulizer in conjunction with an intermittent positive-pressure breathing apparatus. The nebulizer may also be incorporated in the circuit of a positive-pressure device attached to a tank respirator or in the line of an anesthesia machine.

Glycerin added to the aerosol in 2 to 5% concentration retards evaporation and stabilizes the solution. Neosynephrine or ephedrine, 0.05 to 0.1%, may be added if bronchial vasoconstriction is desired. With atelectasis or thick, gummy secretions, wetting agents may be used to reduce surface tension. Triton WR-1339 in 0.025 to 0.125% solution is preferred.

Antibiotics are not generally necessary but 1 million units of penicillin and 1 gm. of streptomycin may be added to each 100 cc. of solution for patients with overwhelming infection or chronic pulmonary suppuration.

Aerosol solutions are made fresh with a specific prescription for each patient. Stock solutions should be avoided.

CONGESTIVE HEART FAILURE is satisfactorily controlled when injections of mercurial diuretics are combined with oral administration of mercumatinil (Cumertilin). Sim P. Dimitroff, M.D., and associates of the University of Southern California and the County Hospital, Los Angeles, report that 3 tablets of the drug taken two or three times a week maintained edema-free weight in 22 of 25 patients aged 50 to 70; 16 of the subjects had hypertension. The only instance of intolerance was gastrointestinal symptoms in a patient known to have gastritis.

Am. Heart J. 49:407-413, 1955.

Symposium on Meticorten for Asthma

*A recent derivative of cortisone, metacortandracin (Meticorten), has greater potency and fewer side effects than the parent steroid.**

ALLERGIC, rheumatic, and inflammatory symptoms often may be relieved by small doses of Meticorten without sodium and fluid retention, potassium loss, and elevation of blood pressure.

Allergic Disorders

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THE synthetic steroid Meticorten appears more effective than cortisone or hydrocortisone for bronchial asthma and dermatomyositis. However, ordinary dosage fails in perennial allergic rhinitis or giant urticaria with angioedema.

The steroid was given to 20 patients. Similar compounds had been taken for long periods of time by 17 subjects. As a rule, 5 mg. of Meticorten was substituted for each 25 mg. of cortisone or 20 mg. of hydrocortisone. The doses varied from person to person and also for the same patient under different circumstances. Doses of 5 mg. were generally taken four times daily for several days, then gradually reduced to the smallest effective level, ranging from 2.5 to 20 mg. per day.

*Meticorten and 9 alpha fluorohydrocortisone in the treatment of allergic disorders. Metacortandracin in chronic asthma. Metacortandracin (Prednisone) in bronchial asthma. J. Allergy 26:189-209, 1955.

Low-sodium diets and supplemental potassium were started but were soon found unnecessary and therefore were discontinued.

Observation continued up to three months, with at least weekly visits. Chest and heart were examined, weight and blood pressure recorded, and serum sodium, serum potassium, and absolute eosinophil counts determined.

For asthma, Meticorten equaled or excelled previously used agents in 15 of 16 patients. Because of severe epigastric pain, however, a middle-aged man was forced to return to hydrocortisone.

A woman with dermatomyositis who was reasonably benefited by 40 mg. of hydrocortisone daily felt much better with 15 mg. of Meticorten. Severe edema vanished, and pain decreased.

Of 3 persons not previously given corticosteroids, 1 patient with severe asthma was greatly relieved by 10 to 15 mg. per day; 1 subject with perennial rhinitis and another with urticaria and angioneurotic edema were not helped by 20 mg. daily.

In 5 of 6 patients, pronounced water retention and weight gain induced by previous therapy were dispelled.

Because the derivative is not innocuous, all the precautions and limitations of other steroids should be observed.

Chronic Asthma

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METICORTEN is particularly useful for chronic asthma when other preparations fail or cause severe reactions.

Treatment was administered for a month or less to 5 outpatients and 3 hospitalized subjects. Initial dosage of 15 to 50 mg. daily was varied according to results. All subjects benefited, if only through arrest of a rapid downward course. In 3 patients, salt retention and edema produced by ACTH were eliminated. No blood pressure elevation, epigastric discomfort, hirsutism, facial roundness, sleeplessness, or acne resulted.

An asthmatic engineer with an incarcerated right inguinal hernia became edematous during hydrocortisone therapy and a low-salt diet. After replacement with 30 mg. of Meticorten daily, weight returned to normal, and severe wheezing subsided. Postoperatively, the wound healed well, weight and blood pressure remained normal, and recovery was uneventful.

Asthma with Diabetes or Nasal Polyps

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INTRACTABLE bronchial asthma was associated with diabetes mellitus in 1 patient and with large nasal polyps in a second. All 3

conditions were alleviated by Meticorten.

Diabetes had persisted for nine years and asthma for three. The patient's diet consisted of 1,450 calories, with 190 gm. of carbohydrate, 60 gm. of protein, and 50 gm. of fat. When oral cortisone was administered with up to 15 injections of epinephrine daily, glycosuria increased and the insulin requirement rose from about 40 units per day to between 150 and 200 units.

Replacement of cortisone by hydrocortisone lowered epinephrine dosage to 2 or 3 injections daily and insulin to between 100 and 120 units. Meticorten in daily doses of 15 to 25 mg. abolished all need for epinephrine, while insulin dosage fell to 35 units. In addition to relieving symptoms, the drug probably affected carbohydrate metabolism less than previous hormone therapy.

In the patient with large nasal polyps, the growths had formed on both sides and recurred after several operations in spite of frequent use of cortisone or hydrocortisone. An Aerolin spray was employed fifty to one hundred times daily. After institution of 35 mg. Meticorten daily, the spray was needed only two to five times a day. Completely obstructive polyps on the right side shrank to one-sixteenth the original size, and the growth on the left side practically disappeared.

No undesirable reactions were observed in either patient, but a study of the effects of prolonged administration is necessary.

Significance of Cranial Bruit

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*Cranial bruits result from abnormal blood flow through vessels altered by disease.**

NOISES in the head are greatly annoying to many patients. Cranial bruits may accompany arteriovenous fistula, vascular malformations, brain tumors that compress large arteries, vascular meningiomas, atherosclerotic plaques, aneurysms, and Paget's disease of bone. Other causes are glomus jugularis and carotid body tumors and murmurs transmitted from coarctation of the aorta, from neck vessels in hypertension, and from highly vascular thyroid glands.

Not to be confused with bruits are noises from rhythmic contractions of the pharynx, chronic cervical myositis, the temperomandibular joints, opening and closing of the eustachian tube, aeroceles, or fluid in paranasal sinuses.

Cranial bruits are always synchronous with the pulse. If the bruit is heard only by the patient, the murmur can be verified by having the patient keep time by hand with the beat of the bruit while the examiner determines whether the beat is synchronous with the radial pulse.

The examiner should auscultate with the patient in the sitting,

prone, and decubitus positions. Often the murmur cannot be heard unless the patient's head is resting on the stethoscope. The physician must ignore extraneous noises of hair, respiration, and swallowing. Bruits may be harsh, soft, whistling, rumbling, churning, or of machinery quality. The character of the bruit may be altered by respiration or carotid artery compression. If the bruit is louder on one side of the skull, digital compression of the carotid artery on the same side may alter the pitch or obliterate the bruit. If only the pitch is changed, either the carotid artery is not occluded by compression, collateral circulation exists, or the vertebral system is involved. If the contralateral carotid artery is compressed, the bruit usually becomes louder. However, if the patient has a sensitive carotid sinus reflex, the bruit may become softer and slower. Midline lesions are heard well bilaterally.

Normal blood flow does not produce bruits. Most originate in vibrations of the blood stream created by abrupt changes in the caliber of vessels or velocity of blood flow. The increased vessel size in arterial aneurysm may produce a murmur, which may be made louder by augmenting the pulse pressure and blood flow by exercise or stimulants.

*Cranial bruit—its significance. S. Clin. North America 35:881-886, 1955.

The bruit of arteriovenous fistula is a continuous to-and-fro murmur synchronous with systole and diastole. If the venous portion of the fistula is occluded and the fistula is unilateral, the murmur is usually systolic only.

A slight arterial narrowing by atheromatous plaques may produce a late diastolic bruit; the bruit shifts to systole and becomes louder as the constriction increases.

Bruits are loudest directly over the diseased portion of the vessel. Murmurs immediately over a narrowed segment of artery are loud and long.

Paget's disease of the base of the skull may produce a bruit by constricting the vessels at the cranial foramina.

The vascular lesions can often be verified by arteriographic examination.

The Child with Hemiplegia

SIDNEY KEATS, M.D., NEW JERSEY ORTHOPAEDIC HOSPITAL, ORANGE, draws attention to the problem of shifting dominance and handedness from a handicapped inherited dominant side to the uninvolved inherited subdominant arm in children with hemiplegia. Speech disorders, mental retardation, seizures, and behavior disturbances are complications that frequently result when the child is unable to make a complete transfer.

In most rehabilitation centers, the affected arm is treated vigorously. This is particularly true with hemiplegia acquired at birth, during infancy, or in the preschool period. Such vigorous therapy, however, tends to hinder the transfer of dominance and may lead to serious complications.

Before rehabilitation of the affected arm is begun, whether the handicap is on the dominant or subdominant side should be determined. Since dominance is usually inherited, the handedness of grandparents, parents, and siblings should be noted.

Difficulties will not be encountered when the involved arm is on the subdominant side or when the involved dominant arm is so severely handicapped from early infancy that manipulation is not possible and dominance shift occurs early.

When the handicap is slight, shift is complicated by the inherent strong drive to use the dominant arm despite the handicap. Vigorous treatment reinforces this effort to use the handicapped dominant arm and leads to incomplete shift.

Treatment of complications is aimed at completing dominance shift as rapidly as possible. This may be accomplished by avoiding all treatment of the handicapped arm and making the uninvolved hand as skillful as possible.

The child with hemiplegia. *Am. J. Dis. Child.* 89:421-425, 1955.

Chronic Abdominal Pain in Children

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*The problem of recurrent abdominal pain in young patients usually can be solved by a few simple investigations.**

OFTEN, chronic abdominal symptoms in children frustrate the family and the physician. However, systematic examination and selective laboratory tests usually lead to diagnosis and remedy. A systematic search for causative factors starts at the head and proceeds downward.

Abdominal pain may be caused by *epilepsy* even though convulsions and loss of consciousness have never occurred. The pain is paroxysmal and recurs at intervals varying from a day to several months. Nausea, vomiting, and pallor may be associated, and drowsiness may occur after the attack. Careful questioning frequently reveals previous or familial convulsive disorders. An electroencephalogram is usually diagnostic. A therapeutic trial with phenobarbital is very useful and often curative. Hydantoinates or, with petit mal, trimethadione may be administered. The prognosis is good. The epileptic tendency is less apparent after the age of 12 years. Treatment should be continued for many months or years. Cessation of therapy is governed by freedom

from pains and electroencephalographic evidence.

Psychologic pain in children is rare. A child with masked epilepsy is often thought to be a malingeringer. Occasionally, cramming at school or goading by anxious parents results in functional abdominal symptoms.

Indigestion may arise from *dental causes*, such as gross oral sepsis or defective dentition. Gastritis is sometimes seen with chronic *upper respiratory infection*. If postnasal pus is noted, the sinuses should be investigated. The *chest* and *spine* should be examined, since pain may be referred from these sites to the abdomen.

Mechanical disorders of the bowel may be manifest by abdominal discomfort. If symptoms are unexplained and severe, a barium meal may be needed. Examination is made in the head-down position while the barium is in the stomach. Hiatus hernia or obstruction due to bands, adhesions, malrotation, or volvulus may be found. Abdominal swelling, flatus, nausea, and vomiting are usual symptoms. Laparotomy may be advisable.

Megacolon and Hirschsprung's disease obstruct the lower bowel and are accompanied by gross intestinal distention. With Hirschsprung's disease, roentgenograms

*Chronic abdominal pain in children. *Practitioner* 174:579-583, 1955.

show a narrow terminal segment and proximal dilatation. Rectosigmoidectomy is the usual therapy. Megacolon may be due to a chronic anal fissure, previous poliomyelitis, or mental deficiency but more often results from faulty training. Reeducation and bowel training in the hospital may be necessary.

Intussusception is a possibility with a sausage-shaped abdominal tumor and emaciation. Barium enema confirms diagnosis. Umbilical hernia rarely causes pain, but surgical repair may provide dramatic relief of symptoms.

Chronic appendicitis probably does not occur, especially in children.

Ingestion of raw milk is significant in development of *tuberculous mesenteric adenitis*. The attack may be acute with vomiting, but more often chronic recurrent abdominal pain, anorexia, and lassitude are noted. A tuberculin test and abdominal roentgenograms aid in diagnosis. Calciferol provides symptomatic cure and increases calcification of abdominal nodes; a safe dose is 50,000 units daily for six weeks.

Blood pressure should be determined and urine examined if headache, anorexia, or vomiting occurs during therapy.

Brucellosis is difficult to confirm. A negative brucellin skin reaction eliminates the disease. A positive reaction means past or present infection. Leukopenia with neutropenia occurs. Chlortetracycline and streptomycin are usually curative. Both tuberculous mesenteric adenitis and brucellosis are prevented by pasteurization of milk.

Recurrent neutropenia is a rare condition notable by cyclic abdominal pain, pyrexia, and neutropenia. Arthritis and splenomegaly are sometimes also seen.

Chronic or recurrent pyelitis is a renal condition that commonly causes abdominal pain. Fever, vomiting, and frequency are associated. Urinalysis provides the diagnosis. Sulfonamides are usually adequate therapy. If symptoms recur, intra-venous and perhaps retrograde pyelographic studies are made to detect possible urinary tract abnormalities, such as hydronephrosis. Renal stones are rare in children.

CONGENITAL GOITER due to treatment of the mother with large doses of propylthiouracil for thyrotoxicosis is usually nontoxic and may disappear without treatment. Clara Waldinger, M.D., and Olga S. Wermer, M.D., of New England Hospital and Edna H. Sobel, M.D., of the Children's Medical Center, Boston, report that the thyroid gland of a 7-lb. infant born about two weeks after maternal medication was discontinued was about 3 times the normal size. The radioactive iodine uptake was high, but the protein-bound iodine content was normal. Although the gland is still palpable and of granular consistency, the iodine uptake is normal and the child is well developed at 10 months of age.

J. Am. M. Women's A. 10:196-197, 1955.

Nutrition in Diabetic Children

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HELEN G. KELLY, M.S., AND ROBERT L. JACKSON, M.D.
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*The diet of the child with diabetes mellitus should be planned to meet the individual needs of growth, physical activity, and maturation pattern.**

A HIGH degree of control can be obtained in childhood diabetes by correlating accurate dosage of insulin with a nutritionally complete diet that is adjusted to compensate for variations in physical activity.

Both parents and children are given thorough instructions in dietary management, and periodic examinations are made to reevaluate the diet. The diet must satisfy the child's appetite and meet requirements of growth and development. Mothers are carefully shown how to increase or decrease the caloric intake according to the child's needs. Many hours of teaching and demonstration should be spent with each family, since good dietary habits established in childhood usually carry over into adult life.

The total caloric intake of the diabetic child is essentially the same as of the healthy child. However, so many factors determine the total caloric requirement that large deviations from the mean can be expected. To sustain normal growth, intake must be governed by varia-

tions in activity and stage of maturation. Therefore, although the exact caloric requirement cannot be predicted, the general pattern of the intake can be anticipated.

The intake of adolescent girls must be guided to prevent overweight. Failure to decrease insulin and caloric intake after the prepubertal growth spurt, decreased physical activity, and dietary indiscretions are the main factors causing excessive weight. By evaluating growth and weight gains every three to six months and by use of weighed diets, the caloric intake can be diminished before the child's overweight becomes extreme.

During short periods of activity additional food is more advisable than the decrease of insulin intake. The well-regulated diabetic patient has an increased appetite for extra food after exercise just as the normal child has. A good physiologic control of the disease is thus maintained.

The caloric needs of a newly discovered diabetic child are usually higher than those of a well-regulated child. Once good nutritional status is established and the growth pattern is normal, the requirements can be estimated from the number of mean calories per pound. After

*Nutritional management of children with diabetes mellitus. *Diabetes* 4:24-31, 1955.

periods of incomplete control, a higher protein intake is advisable to rebuild body tissue and replenish body stores. Requirements for water-soluble vitamins may also be greater.

The diabetic child's diet must be liberal, rich in protective foods,

and adjusted to individual needs. The diet is calculated on the basis of protein and calories. No special attention is given to the ratio of fatty acid to dextrose in individual meals. A wide variety of foods, excluding concentrated sweets, is permitted.

Thickened Mixtures for Infants

WILLARD R. CENTERWALL, M.D., AND SIEGRIED A. CENTERWALL, M.D., COLLEGE OF MEDICAL EVANGELISTS, LOS ANGELES, utilize precooked baby cereals to prepare the bulky mixtures that are used in treatment of pylorospasm and pernicious vomiting. Cereals tested for thickening properties are listed in the table. Amounts shown are added to a formula with 20 calories per ounce.

PRECOOKED CEREALS IN THICKENED FORMULAS

Cereal	Tbs. per oz. of formula	Tbs. per 6 oz. of formula	Approximate calories per oz. of thickened formula	% Crude fiber	% Carbohydrate	% Fat	% Protein	% Ash
Rice								
Gerber's	1 1/6	11	31	0.8	78.7	1.5	6.6	5.4
Heinz	1 1/6	7 1/2	27	0.5	82.1	2.8	4.1	4.4
Pablum	1	6	26	0.3	80.9	1	6	3.8
Barley								
Gerber's	1 1/6	9	29	1	75.1	0.9	11.6	4.3
Heinz	1 1/4	7 1/2	28 1/2	0.5	77.1	1.3	10.4	4.6
Pablum	1 +	6 1/2	26	0.7	76.4	1	10.5	4.4
Oat								
Gerber's	1 1/4	7 1/2	29	1.2	68.6	3.8	15.3	4.3
Heinz	1 1/6	7	28	1.5	67	7.1	15	5.1
Pablum	1 1/6	7	27 1/2	1.4	63.8	6	16	4.8
Mixed								
Gerber's (wheat, oat, corn, barley)	1 1/6	10	30 1/2	0.6	75.8	1.7	13	4.1
Heinz (wheat, oat, corn)	1 1/6	7 1/2	29	0.7	73.7	3.1	12.6	5.2
Pablum (wheat, oat, corn, alfalfa)	1 1/4	7 1/2	29	0.9	69.9	3	15	4.2
Wheat								
Farina	1/6	1	26	0.3	73.7	0.9	10.8	3.4

Thickened formulas: standardization of preparation and a new method of administration. *J. Pediat.* 47:194-197, 1955.

Psychosomatic Gastrointestinal Problems

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*Emotional factors have a significant influence on motility, vascularity, and secretion of the gastrointestinal tract.**

ANXIETY, unexpressed anger or resentment, and frustrated desires for affection may increase motility, vascularity, and secretion of the gastrointestinal tract. Hypoactivity of the functions is caused by states of depression, loneliness and isolation, and apathy. The disturbances in physiology are mediated through the autonomic nervous system.

Hypermotility, vascular engorgement, and increased secretion in the upper tract may produce peptic ulcer and, in the lower tract, ulcerative colitis. Depression of motility and secretion and vascular pallor in the upper tract cause appetite disturbances, and underactivity in the lower tract results in constipation.

Children with *primary chronic peptic ulceration* are often less assertive than healthy children and have difficulty expressing aggression and anger.

When the need for a secure love relationship with the mother during infancy is not met, the search for affection and love may be carried into all areas of life. Reaction to emotional stress is with upper gastrointestinal hyperfunction because

this organ is most important in the interpersonal activities of feeding during the first year of life. When hyperfunction continues, ulceration may occur.

Approximately 10% of adults with *ulcerative colitis* are initially affected during childhood. Children with ulcerative colitis are depressed and struggle with anger and guilt toward hostile and rejecting mothers. The bloody diarrhea expresses the angry impulses that the child cannot deal with consciously. Stages in the disease can often be correlated with precipitating life situations. Psychotherapy may be beneficial.

Psychogenic vomiting may be [1] an expression of hostility to parents who are forceful in the feeding situation, [2] a reaction to actual or threatened loss of loved ones, [3] a symbol of rejection of parental attitudes, [4] a reaction of adolescent girls to fears and anxieties, and [5] a nonspecific reaction to stress.

Constipation is an expression of resistance and negativism. Toilet training gives the child an opportunity to resist parental efforts. In adult life, resistance becomes unconscious.

Many cases of *infantile colic* may be largely emotional in origin. The mother is often anxious, cold, and emotionally rejecting.

*Psychosomatic gastrointestinal problems in children. Am. J. Dis. Child. 89:717-724, 1955.

ANESTHESIOLOGY

Treatment should not be directed solely to the local gastrointestinal lesions, since function is disturbed on the autonomic nervous system and cerebrocortical levels also. A comprehensive approach, including attention to psychic tension and to stressful interpersonal relations, brings the best results.

Parents should be interviewed regarding emotional stress in the onset of the illness. The feeding and bowel-training history must be explored.

The parents should be told how stresses and personality factors affect the illness. If the influence of medication and dietary regulation is explained, the parents may understand why treatment is not always effective and not put exclusive emphasis on medication.

Suggestions in regard to behavior are often best presented as provocative questions. Community group activities for children are helpful in some cases. Psychiatric referral must be made skillfully.

POSTOPERATIVE VOMITING is frequently prevented by subcutaneous injection of Marezine thirty to sixty minutes before the expected termination of anesthesia. The drug, *N*-benzhydryl-*N*-methyl piperazine dihydrochloride, is given in doses of 50 mg. to adults and in proportionately smaller amounts to children. Sara J. Dent, M.D., V. Ramachandra, M.D., and C. R. Stephen, M.D., of Duke University, Durham, N.C., report that the incidence of vomiting was 23.9% less in 1,000 patients given the drug than in 2,000 control subjects. Emesis in both groups occurred most often after administration of ether and cyclopropane. Occasional burning pain for a few minutes at the site of injection was the only side effect noted.

Anesthesiology 16:564-572, 1955.

INTRACTABLE PAIN may be relieved by continuous differential peridural block with 1% Xylocaine without epinephrine. A small polyethylene catheter, guided by a notched intraspinal needle, is inserted through the peridural space to the segment corresponding to the spinal nerve roots or to the tract of paravertebral sympathetic fibers to be blocked. After a roentgenogram is made to determine the position of the tube, the needle is withdrawn. The anesthetic solution, 5 to 10 cc., is then injected every three hours for three or four days. A. M. Dogliotti, M.D., and E. Ciocatto, M.D., of Turin University, Italy, report that immediate results were good in 90% and fair in 5% of the disorders treated, which included inoperable cancer, spondylarthritis, Buerger's and Raynaud's diseases, essential hypertension, and other painful conditions.

Anesthesiology 16:623-626, 1955.

Finger Fracture Commissurotomy

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Prepared for Modern Medicine

MITRAL stenosis is the result of an inflammatory process and is the characteristic lesion of past rheumatic infection in older children and young adults.

Stenosis develops by 2 main processes. The first is thickening and hardening of the valve which may or may not become calcified; the second is fusion beginning at the commissures and progressing along the edges of the valve leaflet. When the chordae tendineae thicken and shorten, regurgitation results.

Understanding of the progressive pathologic physiology and the pathologic lesion helps in the selection of patients for surgery. Diagnosis of mitral stenosis is insufficient reason for operation, and asymptomatic involvement may be considered a contraindication. Any adult with progressive disability should be considered for surgery.

Although a suitable candidate is usually under 50 years of age, chronologic age is not a factor. Severity of the heart disease, not age, determines the operative risk.

Contraindications to surgery include: [1] active rheumatic carditis;

[2] bacterial endocarditis; [3] uncontrollable heart failure or irreversible congestive failure; [4] moderate to severe mitral regurgitation, or aortic valve lesions, or both; and [5] left ventricle enlargement.

Auricular fibrillation and slight mitral regurgitation with no left ventricular hypertrophy are not contraindications. The patient with arterial embolization and recurrent hemoptysis should be considered an acceptable and urgent case.

The patient who faces little operative risk has pulmonary congestion, paroxysmal dyspnea, cough and dyspnea on exertion, pulmonary edema, and repeated hemoptysis. Stenosis is the predominant lesion without severe regurgitation or significant aortic valvular disease; right heart failure is absent.

The usual surgical technic for reconstruction of the stenosed valve is shown in Figures 1 to 8.

With stenosis, the fusion occurs from the commissures, and, therefore, surgical correction should secure a separation along the line of fusion. Only time will tell whether patients are permanently cured.

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Illustrations by Morris Huberland, New York City.

Fig. 1. Chest wall opened



Surgical Technic

With the patient lying on the right side, the muscles of the chest wall are divided over the fourth intercostal space through a left lateral approach. The wall is opened widely through the left fourth intercostal space, and the lung, protected by towels, is retracted posteriorly, exposing the pericardium with the phrenic nerve on the surface (Fig. 1).

A longitudinal incision is made between clamps in the pericardium, about 1 cm. from, and parallel to, the phrenic nerve. The position of the underlying auricular appendage determines whether the incision is anterior or posterior to the nerve. Care must be taken to avoid injury to the phrenic nerve and underlying coronary vessels (Fig. 2).

With the pericardium opened widely and the edges fixed by temporary sutures for wide retraction, the heart is elevated to give better access to the auricle. The sutures

Fig. 2. Incision of pericardium



Fig. 3. Edges of pericardium retracted and tied, exposing left auricular appendage

are then tied in place, exposing the left auricular appendage (Fig. 3).

The distended appendage is infiltrated with Novocain before the purse-string suture is placed. The tip of the appendage is elevated with a noncrushing clamp and a suture of No. 1 braided silk begun with a nontraumatic curved needle on the posterior aspect at the base of the left auricular appendage (Fig. 4). The suture is completed on the anterior aspect.

After the purse-string suture has been placed, a noncrushing clamp is applied to the base of the auricular appendage and traction sutures of nontraumatic silk are placed below the tip of the appendage which is opened for insertion of the right index finger (Fig. 5). Just before the finger is inserted, the clamp is released to wash out a thrombus if present. With the clamp released, the finger is inserted into the auricular appendage and the purse-string suture is then drawn to fit

Fig. 4. Purse-string suture being placed.

Fig. 5. Traction sutures being placed below tip of appendage

snugly about the finger (Fig. 6). The finger in the auricle explores the mitral orifice for size and absence or presence and degree of regurgitation. The extent of fibrosis and calcification involving the valve leaflets is also determined. With steady pressure on the tip, the finger is forced through the stenotic mitral opening, splitting the anterolateral commissure. The finger is then turned to evaluate the posteromedial commissure (Fig. 7).

When the commissures have been split, the finger is withdrawn from the auricle as the purse-string suture is tied. The noncrushing clamp is reapplied to the appendage for security (Fig. 8), and the tip of the auricular appendage is amputated. The cut edge is oversewn with silk. With interrupted silk sutures, the pericardial opening is approximated loosely to permit drainage into the pleural cavity. The thorax is closed in the usual way with intercostal tube drainage.

Fig. 6. Insertion of finger into auricle



CLINICOLOR

Fig. 7. Finger in auricle splitting anterolateral commissure



Fig. 8. Finger withdrawn and purse-string suture tied

Limited Eye Motion in Children

ROBERT G. MURRAY, M.D.

University of North Carolina, Chapel Hill

*Acquired paralysis of external eye muscles or lids strongly suggests brain tumor in childhood but not in adult life.**

INTRACRANIAL tumors rarely produce disturbances of ocular motility in adults, and neoplasm of the posterior fossa occurs infrequently after childhood. However, in children, restricted ocular motility may be an indication of an intracranial tumor.

When a child has sixth nerve paralysis on either or both sides, with or without seventh nerve involvement, and evidence of intracranial inflammation, otitis media, trauma, or myasthenia gravis is lacking, brain tumor should be considered. In such an instance, increased intracranial pressure with choked disks may suggest cerebellar growth. Lack of high intracranial pressure favors tumor of the pons, especially if the third nerve is affected.

Predominantly third nerve lesions without encephalitis usually mean pontine or mesencephalic tumor. If air encephalograms and arteriograms reveal no cause, intermittent third nerve palsy with ipsilateral head pain may be diagnosed as ophthalmoplegic mi-

graine. Fourth nerve palsy may be associated with complete third nerve paralysis.

The child with eyes fixed in a relatively single position of gaze may have cortical irritation, most likely from meningitis or abscess. Vascular tumor of the cortex and subdural hematoma also are possibilities.

Many sixth nerve palsies in older adults are transitory, and the cause is never determined. In younger adults, much dysfunction is a consequence of multiple sclerosis, which is uncommon in childhood and tends to involve the optic nerve rather than the motor system.

Third nerve palsies of adults are generally a result of intracranial aneurysms and extradural hemorrhage. Many supranuclear and nuclear lesions are due to arteriosclerosis and hypertension, with an occlusion or hemorrhage.

To determine possible causes of ocular motility in children, 950 patients under 16 years of age were selected from 2 hospitals by discharge diagnosis, including encephalitis, meningitis, intracranial tumor, head trauma, and other states likely to affect nerves and muscles controlling eye movement. Patients with congenital or developmental abnormality influencing motion, proptosis

*The diagnostic significance of restricted ocular motility in children. *J. Neurosurg.* 12:278-286, 1955.

and a retrobulbar mass with inferred local involvement of nerves or muscles, or poliomyelitis, which seldom restricts ocular motility, were omitted.

External ocular palsy was noted in 122 of the patients, and 87 of these had intracranial tumor. Of the neoplasms, 40 were pontine, 32 cerebellar, 7 cerebral, 1 extradural,

1 pituitary, and 1 pineal; the remaining 5 were located in the cerebellopontine angle. Of the remaining 35 patients, meningitis or other inflammatory disease was the causative factor in 14, myasthenia gravis in 8, trauma in 5, ophthalmoplegic migraine in 3, and intracranial aneurysm in 1. No etiologic factor was found in 4 instances.

Manifestations of Pharyngoconjunctival Fever

RALPH W. RYAN, M.D., JAMES F. O'ROURKE, M.D., AND GILBERT ISER, M.D., BETHESDA, MD., describe pharyngoconjunctival fever, an entity associated with 8 or more types of adenoidal-pharyngeal-conjunctival (APC) viruses. The viruses are of small-particle size, pathogenic, and epitheliotropic and produce specific immunologic responses. In human beings, the viruses can produce conjunctivitis, nasopharyngitis, fever, malaise, and lymphadenopathy.

The disease occurs after an incubation period of five to ten days. Spread appears to be by many kinds of contact, but epidemics are associated with the use of swimming pools even when the water is chlorinated. Children are most commonly affected.

Conjunctivitis is usually associated with slight nasopharyngitis; fever as high as 104° F.; lymphadenopathy, chiefly cervical or submaxillary, but occasionally preauricular, adjacent to the affected eye; headaches; gastrointestinal disturbances; and slight leukocytosis with neutrophilia and subsequent slight leukopenia. Conjunctival symptoms most commonly range from itching and burning to moderately severe irritation and foreign body sensation.

Congestion usually affects the lower palpebral conjunctiva most but also affects the upper palpebral and the bulbar conjunctiva. Lacrimation is moderate to severe. Lymph-follicle hyperplasia is noted and is most severe in the lower palpebral conjunctiva. The cornea is not significantly affected. Specific APC virus can be cultured from the affected conjunctival surfaces during active inflammation.

No relief is noted from known antibiotics or sulfonamides. Treatment of the conjunctivitis with topical cortisone or hydrocortisone, combined with antibiotic substances or sulfonamides, often successfully alleviates symptoms.

Conjunctivitis in adenoidal-pharyngeal-conjunctival virus infection. Arch. Ophth. 54:211-216, 1955.

Urethral Diverticula in the Female

EUGENE A. EDWARDS, M.D., AND ROBERT A. BEEBE, M.D.

Northwestern University and St. Luke's Hospital, Chicago

*A radical procedure in which the urethra is incised is effective for repair of diverticula of the female urethra.**

IN general, diverticula of the female urethra may be caused by a congenital anomaly or result from an acquired disease. Although opinions differ, most investigators believe that the condition is acquired. Diverticula probably occur after obstruction of the narrow outlet of infected paraurethral ducts with subsequent abscess formation. Abscesses of the vagina or of glands of the urethral wall rupture into the urethra and form a pocket. Repeated infection, obstruction, and poor drainage lead to enlargement of the cavities and formation of a urethral diverticulum.

Localized symptoms of urethral diverticula are pain, a tender mass, and dyspareunia, which are often relieved after discharge of pus from the urethra. Symptoms referable to the urinary tract are incontinence, dysuria, frequency, chills, hematuria, and fever.

Diagnosis should be considered in patients with recurrent attacks of unexplained cystitis and a mass, usually tender to touch, in the region of the urethra. Diagnosis is established by palpation of the sac,

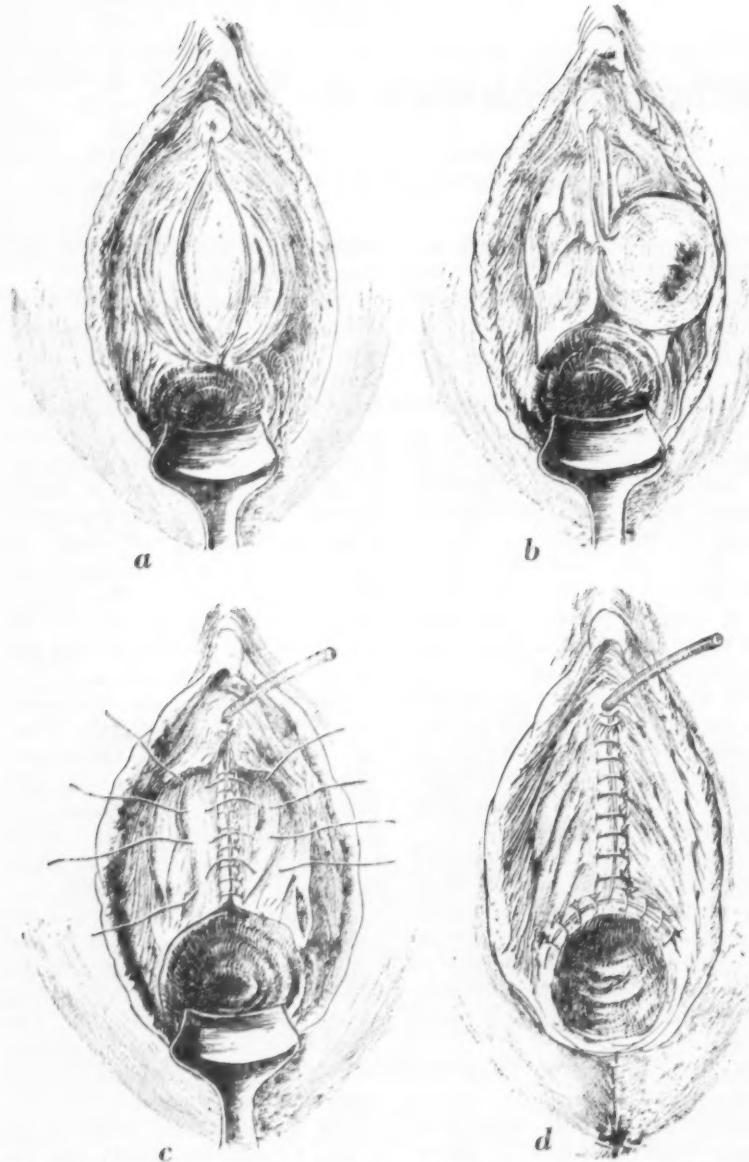
urethoscopic examination, or urethrographic study.

Treatment involves incision of the urethra. The cervix is grasped with a tenaculum forceps, downward traction is applied, and a transverse incision is made through the vaginal mucous membrane just above the external cervix (Fig. a). A midsagittal incision is made through the vaginal mucous membrane extending upward from the center of the transverse incision to the urethral meatus. The vesicouterine ligament is incised, and the bladder base is mobilized from the lower portion of the uterus.

The pubocervical musculofascial layer is separated bilaterally from the vaginal mucous membrane. This frees the urethra in the midline so that neither fascial nor mucous membrane overlies or is attached to the urethra. The diverticulum is now clearly visible.

A Foley catheter is placed in the bladder, and the urethra is incised along the posterior midline from the external meatus to the opening of the diverticulum (Fig. b). The distal third or more of the urethra is now completely opened. If 2 or more openings are found, the separating or intervening tissue is excised. Granulating edges are denuded, and the diverticulum sac is mobilized and excised.

*Diverticula of the female urethra. *Obst. & Gynec.* 5:729-738, 1955.



Repair of urethral diverticulum: [a] vaginal mucous membrane incised, [b] urethra opened along posterior midline from meatus to neck of diverticulum, [c] musculofascial layer closed in 2 layers after removal of diverticulum and repair of urethral mucosa, and [d] vaginal mucous membrane approximated

The edges of the urethra are approximated over the Foley catheter with interrupted submucosal sutures of No. 000 chromic catgut; these approximating sutures should not pass through the mucosa of the urethra. The pubocervical fascia is

approximated over the urethra in 2 musculofascial layers (Fig. c). The vaginal mucous membrane is closed from side to side with interrupted sutures (Fig. d). The catheter is not removed for eight to ten days.

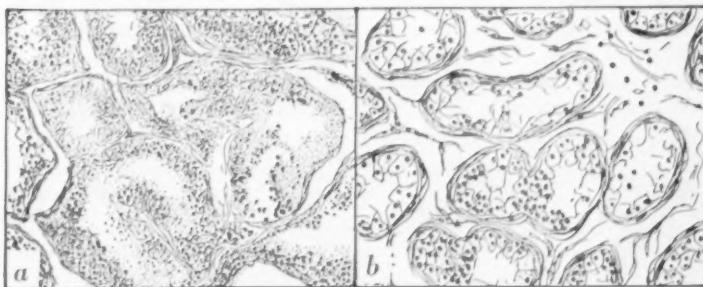
Treatment of Cryptorchidism

FRANK HINMAN, JR., M.D., UNIVERSITY OF CALIFORNIA, SAN FRANCISCO, recommends early correction of undescended testes. After 6 years of age, irreversible damage to the cryptorchid testis may occur from high intraabdominal temperatures.

The administration of anterior pituitary-like hormone or methyltestosterone lingue will show what effect to expect during puberty. If hormonal stimulation fails, operation should be done at once.

The decision between orchiopexy and orchietomy is usually made at the operating table. The appearance of the testes and the technical difficulties of placement in the scrotum are considered. Other considerations are:

- *Cosmetic.* A nylon prosthesis is an excellent substitute.
- *Hormonal.* Testosterone adequately compensates for loss of Leydig function.



Biopsies of [a] normal and [b] abnormal cryptorchid testes

- *Fertility.* Spermatogenesis will occur only if the testis is normal and can be brought within the scrotum (see illustration).
- *Neoplastic.* Tumor of the testis is 20 times more frequent in patients with cryptorchidism.

Optimum time for orchiopexy in cryptorchidism. *Fertil. & Steril.* 6:206-214, 1955.

Rectal Prolapse and Procidentia

NEIL W. SWINTON, M.D., AND WILLARD L. MATHIESON, M.D.
Lahey Clinic, Boston

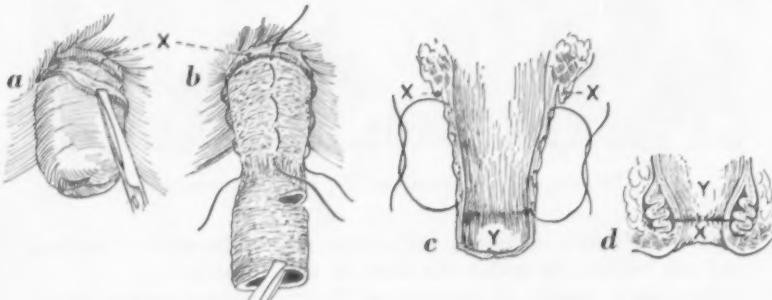
*Surgical treatment of rectal prolapse and procidentia depends on age and weight of the patient, previous surgical procedures, and concomitant constitutional diseases.**

WHEN the degree of prolapse or procidentia is not pronounced, *amputation and plastic repair* is the best operation for elderly patients who are not suitable for an intra-abdominal operation because of obesity or constitutional disorders. The procedure is not recommended for young patients because the defect probably would recur.

A modified Délorme operation is employed for elderly, poor operative risk patients with severe prolapse. The recurrence and mortality rates are low. The operative technic is not difficult, but adequate hemostasis is essential.

A circular incision is made at the junction of the skin and rectal mucosa through the mucous membrane after the bowel has been pulled down to the full extent of the prolapse. With sharp dissection and adequate hemostasis, the mucosa is dissected from the muscularis down to the apex of the prolapse and drawn downward (Fig. a). The excess mucosa, which may vary from 15 to 28 in. in length, is excised (Fig. b).

Interrupted mattress sutures are placed between the cut edge of mucosa, carried through the bunched-up segment of muscularis, and anchored to the adjacent skin margin. At least 4 sutures are placed before tying is done (Fig. c). When the skin sutures are tied, the mass of muscularis tends to slip inside the sphincter musculature, thus reducing the prolapsed segment of bowel.



Modified Délorme operation for treatment of rectal prolapse

*The treatment of rectal prolapse and procidentia. S. Clin. North America 35:847-852, 1955.

The sutures must be tied loosely and without tension (Fig. d).

Intraabdominal fixation and resection of redundant bowel is preferred for patients who are good operative risks and have extensive rectal procidentia and for young persons. Complications do not occur, and results are uniformly good.

The pelvic peritoneum is incised close to the bowel wall. The relaxed lateral supporting structures and blood supply of the rectum are preserved intact.

The rectum is mobilized anteriorly to below the level of the prostate or deep down on the posterior vaginal wall and drawn up into the abdomen as far as possible. The lateral supporting structures are either imbricated or, preferably, anchored to the adjacent periosteum of the sacrum with interrupted silk sutures.

The excess pelvic peritoneum can then be excised, and the defect in the deep pelvic fascia is closed as

snugly as possible anterior to the rectum. The cul-de-sac is obliterated by closing the pelvic peritoneum at a high level.

The redundant sigmoid and descending colon is resected and end-to-end anastomosis is performed without tension. Extra fixation of the bowel to the anterior abdominal wall, as in a Mikulicz operation, is generally not necessary.

Posterior fixation of the rectum is a temporary, expedient operation for elderly, poor-risk patients with a short life expectancy. The recurrence rate is high.

Intraabdominal fixation with or without perineal repair is unsatisfactory. The recurrence rate is high, and postoperative deaths are common. Plastic operations on the perineum are generally not advisable. Plication of rectal sphincters may make the condition worse; the relaxed anal musculature usually regains muscle tone when the prolapsed bowel is eliminated.

Hemorrhage with Diverticulitis

RUDOLF J. NOER, M.D., UNIVERSITY OF LOUISVILLE, believes that long-continued or recurrent moderate rectal bleeding should be accepted as a manifestation of diverticular disease of the colon.

Careful examination of excised areas of colon of patients with diverticulosis or diverticulitis revealed only diverticula as the source of bleeding. Furthermore, injection studies showed a concentration of blood vessels in the region of the diverticula. The size and distribution of the vessels within the walls of the diverticula were such as to make severe hemorrhage probable should erosion or ulceration occur.

When treating a patient with diverticulitis, the possibility of sudden exsanguinating hemorrhage should be considered among the hazards of nonoperative treatment.

Hemorrhage as a complication of diverticulitis. Ann. Surg. 41:674-685, 1955.

Surgery for Aortic Insufficiency

CHARLES A. HUFNAGEL, M.D.

Georgetown University, Washington, D.C.

*Insertion of a ball-valve in the distal arch of the aorta is a practical procedure for treatment of progressive free aortic insufficiency before extensive myocardial damage occurs.**

THE major causes of insufficiency of the aortic valve are rheumatic fever, syphilis, subacute bacterial endocarditis, congenital anomalies, trauma, and hypertensive cardiovascular disease. Free aortic insufficiency may exist as a single lesion or in combination with other valvular lesions.

Longstanding aortic insufficiency is frequently associated with a rumbling diastolic murmur which may be difficult to distinguish from a mitral stenosis murmur. Left ventricular dilatation may give rise to a loud systolic murmur due to relative mitral insufficiency. In addition, an aortic systolic murmur may result from dilatation of the aorta distal to the valve which produces relative stenosis. Aortic insufficiency due to rheumatic valvulitis may exist without major degrees of aortic or mitral stenosis. Wide pulse pressure and low diastolic pressure are signs of free aortic insufficiency.

The disease may be slowly progressive or rapid. Ruptured cusps due to lues or acute trauma cause failure within days, and death re-

sults within six to twelve months. Major valve deformities may occur rapidly with bacterial endocarditis, and the period of survival depends on the degree of deformity. Rheumatic aortic insufficiency leads to gradual cardiac enlargement with ultimate signs of failure; angina pectoris, often nocturnal; auricular fibrillation; and ventricular arrhythmias. Sudden death, apparently from ventricular fibrillation, is common. Medical management of aortic insufficiency is difficult after the onset of congestive failure.

For best results and least risk, candidates for surgery should [1] be under 50 years of age, [2] have relatively pure aortic insufficiency or a second correctible lesion, [3] have no acute rheumatic activity, [4] be benefited by medical management or have controllable congestive failure, [5] have only moderate cardiac enlargement, [6] have no signs of intractable angina pectoris, [7] have no serious changes in ventricular conduction, and [8] be without severe renal or hepatic disease.

Acute onset of failure in rheumatic patients without evidence of a sudden change in the mechanical lesion suggests an exacerbation of rheumatic myocarditis, and surgery is inadvisable.

Serious ventricular arrhythmias

*Surgical correction of aortic insufficiency. Mod. Concepts Cardiovas. Dis. 24:287-289, 1955.

SURGERY

are unpredictable and difficult to control and complicate free aortic insufficiency with or without surgery.

Anesthesia and operative stress are added hazards. Surgery does not immediately affect the ventricular conduction system. In the relatively ideal group of patients, mortality rates approximate 10%, while the rate is 40% in patients with far-advanced disease.

A plastic ball-valve is inserted into the distal aortic arch, an area that allows safe occlusion for twenty minutes without serious cardiac embarrassment or interruption of venous flow to the heart. Actual insertion requires three to five minutes. A small cuff of orlon mesh insures proper fit and removal of a segment of aorta prevents angulation, both sources of embolism. The prosthesis is held in place by nylon rings which do not necrose the aorta because of multiple-point fixation.

Corrective operation for coexisting mitral or aortic stenosis may be performed at the time of valve insertion. The sound of the valve was not considered a problem by any of the patients. The noise tends to diminish as the valve becomes surrounded by fibrous tissue.

Since 1952, 90 patients have had valve insertion. All of the patients had congestive failure with major cardiac enlargement, wide pulse pressures, and diastolic pressures of 40 mm. of mercury or less. Most subjects had severe angina pectoris. Secondary liver disease was common.

Almost all patients with early to middle myocardial changes were benefited by surgery with restoration of ability to perform normal adult activities. Terminal lesions were not improved. Disruption of the aorta due to pressure occurred several months after operation in 1 patient.

Undetected Hernias in Children

ROBERT E. ROTHENBERG, M.D., AND THEODORE BARNETT, M.D., THE CENTRAL MEDICAL GROUP, BROOKLYN, believe that bilateral inguinal hernia should be suspected in infants and children when a hernia is demonstrable on one side.

Of 50 children aged 1 month to 12 years with palpable unilateral inguinal hernias, 37 had bilateral involvement found by surgical exploration. None of the hernias had contents, thus explaining the failure to detect the sacs. In 2 instances, the undetected sac was larger than the palpable hernia.

Of the 12 children 1 year of age or younger, all had bilateral involvement. The hernias were exceptionally large on the undiagnosed side, suggesting that the sacs decrease or disappear as the child matures.

Bilateral herniotomy in infants and children. *Surgery* 37:947-950, 1955.

Malrotation of the Intestine

E. MERIDITH ALDRICH, M.D., C. BRUCE MORTON II, M.D., AND
JAMES P. BAKER, M.D.

University of Virginia, Charlottesville

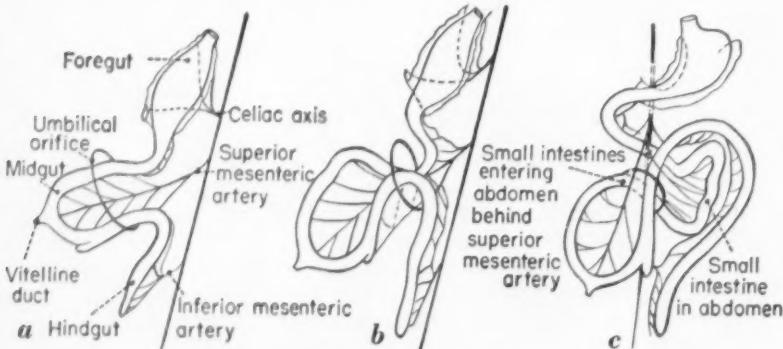
*High intestinal obstruction due to malrotation of the midgut, with or without volvulus, is easily corrected surgically with good permanent results.**

INTESTINAL obstruction secondary to abnormalities of intestinal rotation is not uncommon in infancy and early childhood. Obstruction in adults may occur on the same basis but is comparatively rare.

In order to comprehend and treat malrotation, the normal development of the gastrointestinal tract must be understood. Anomalies are

principally limited to the midgut, the mesogaster, which extends from the third portion of the duodenum to the midportion of the transverse colon.

The process of development of the midgut may be divided into 3 phases. The first is the stage of protrusion of the midgut through the umbilical orifice which ends when the midgut begins to return to the peritoneal cavity (Fig. a). The second stage consists of the rotation and return of the midgut to the peritoneal cavity (Figs. b and c). The third stage is the extension and fixation of the colon



Development of fetal alimentary tract: [a] at fifth week, foregut, midgut, and hindgut are suspended on common mesentery, and the midgut loop extends into the umbilical cord; [b] at eighth week, midgut is rotating counterclockwise with rapid development of prearterial segment; [c] at tenth week, small bowel is returning to peritoneal cavity, passing posterior to superior mesenteric artery.

*Intestinal obstruction resulting from malrotation of the intestine. Ann. Surg. 141:765-777, 1955.

in the plane reached at the end of the second stage.

The most significant abnormalities result during the second stage of development. Factors involved are the return of the midgut to the peritoneal cavity and the rotation through 270° in a counterclockwise direction on the axis of the superior mesenteric artery.

Rotation abnormalities of the midgut include [1] the return of the midgut without rotation, [2] rotation in a clockwise rather than a counterclockwise direction, and [3] incomplete or arrested rotation in a normal direction.

The most common problem is incomplete rotation. The cecum fails to complete migration from the subhepatic area to the normal position in the right lower quadrant. The mesentery does not fuse, and the midgut hangs on the superior mesenteric artery. The cecum and terminal ileum are either free or attached in the subhepatic region by peritoneal bands. If the entire midgut is unattached, volvulus may occur, usually in a clockwise direction. Volvulus not only compromises the blood supply to the midgut, due to torsion and compression of the superior mesenteric artery, but also may increase the pressure on the duodenum.

The midgut rarely returns to the peritoneal cavity without rotation, and reverse rotation during return of the midgut is also comparatively uncommon.

In most instances of malrotation, symptoms begin shortly after birth and are persistent but sometimes are intermittent and date from an

early age only in retrospect. Symptoms are those of high intestinal obstruction with vomiting of gastrointestinal contents. Bile in the vomitus distinguishes the disorder from duodenal atresia proximal to the ampulla of Vater and hypertrophic pyloric stenosis. Obstruction is usually incomplete so that the passage of meconium differentiates the condition from complete atresia. Abdominal distention is usually quite noticeable if volvulus occurs but may be lacking with no volvulus.

Flat and upright roentgenograms of the abdomen show typical dilatation of the stomach and first portion of the duodenum, with a fluid level in each. Gas is slight in the remainder of the intestinal tract unless volvulus has existed for some time.

Roentgenograms with contrast media are unnecessary and should not be used in infants because of the risks of vomiting and aspiration of radiopaque material and of making a partial obstruction into a complete one. When films are made, some of the danger may be lessened by performing prompt gastric lavage to remove the contrast material.

In adults with intermittent symptoms, contrast studies are of more value, and a barium enema is most helpful. Characteristically, abnormal position or mobility of the cecum is demonstrated. Either finding means incomplete fixation of the mesenteric leaves and, therefore, malrotation. Oral barium may reveal partial obstruction of the third part of the duodenum or the duo-

duenum descending on the right side of the spine.

Surgery is performed as soon as tentative diagnosis is made and fluid and electrolyte balance is accomplished. Adequate exposure is essential to easy, exact identification of the nature of the abnormality. Volvulus should be reduced and obstruction relieved. Obstruction is best relieved by mobilization and displacement of the cecum and terminal ileum to the left upper quadrant and freeing of the duodenum from the peritoneal bands.

Associated anomalies, such as atresia of the intestine, should be corrected while the abdomen is open. Removal of the appendix is justified, since the abnormal position may cause future trouble and the added risk is slight.

Results are good when the condition is typical and uncomplicated and operation is done promptly. Failure in diagnosis, delay in operation, volvulus with gangrene of the bowel, and associated anomalies are frequent causes of unsuccessful results.

Skin Necrosis from Norepinephrine

GORDON H. HARDIE, M.D., AND DANIEL C. HUNTER, JR., M.D., UNIVERSITY OF MICHIGAN, ANN ARBOR, report that arteriosclerosis obliterans, thromboangiitis obliterans, and Raynaud's disease may preclude the use of norepinephrine. Blanching near the site of venipuncture has been observed frequently, and extravasation from a malpositioned or dislodged needle can cause severe localized ischemia and necrosis.

Important factors in necrosis include duration of administration, location of infusion, local nutritional condition of tissue, diameter of vein, and rapidity of dilution. Areas of ischemic involvement should be avoided.

When long-term administration is necessary, the drug should be given above the antecubital or popliteal fossa in a vein of adequate diameter and blood flow. A catheter threaded centrally increases the amount of blood flow at the infusion site. Extravasation is avoided by phlebotomy without ligation or by threading a polyethylene tube through a large intravenous needle.

Nourishment of the vein wall should be maintained by administering oxygenated whole blood with the pressor agent or intermittently by a "Y" connection. Vasoconstriction is relaxed by stopping the drug, giving oxygenated whole blood if the infusion is known to be intraluminal, and injecting hyaluronidase and 1 to 2% procaine. The metabolic needs of an ischemic area should not be increased by application of heat.

Skin necrosis with the intravenous use of nor-epinephrine. Univ. Michigan M. Bull. 21:213-219, 1955.

Endarterectomy for Arteriosclerosis

JACK A. CANNON, M.D., AND WILEY F. BARKER, M.D.

University of California at Los Angeles and Wadsworth General Hospital, Los Angeles

*A semiclosed technic of endarterectomy by intraluminal stripping with a fine-wire loop stripper is useful in treatment of obstructive femoral arteriosclerosis.**

IN arteries occluded by arteriosclerotic changes, endarterectomy is technically feasible because an excellent cleavage plane exists between the thickened intima and the media, and, once the plane is entered, separation is relatively easy.

Endarterectomy is not without complications, and not all patients with arteriosclerotic occlusion of the femoral artery are benefited by the procedure. Careful studies should be made of the patient's physical condition and of the vessels of the leg. The obstructed artery should be of sufficient size to make surgery technically feasible, and the distal arterial tree should be patent. Results are best when arteriographic examination reveals a patent popliteal artery with one or more branches open.

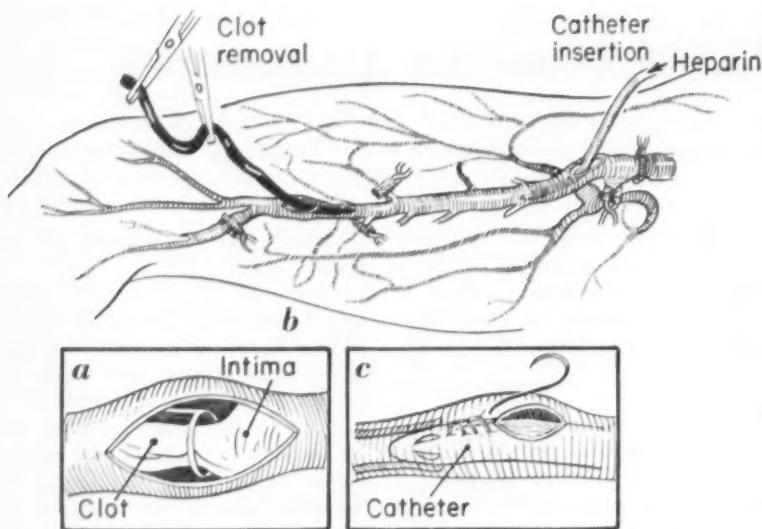
When the distal artery is not patent, the popliteal artery is explored and an arteriogram is made at surgery. If the arteriogram reveals an obstruction distally, endarterectomy may be performed in

the vessel above but results are not always good.

Operation is performed during spinal anesthesia. The entire surface of the involved extremity is prepared from a point well above the groin to the toes. A stockinet is applied to the foot and calf, and an incision is made on the medial aspect of the thigh, paralleling the sartorius muscle. The incision begins just above the knee joint and extends proximally for about 8 cm. The upper portion of the popliteal space is opened, and the area of junction between the superficial femoral and the popliteal arteries is identified. The artery is isolated, explored for collapsibility, and opened to estimate backflow from below.

An arteriogram is made to determine the exact status of the leg vessels. If the popliteal artery is patent and continuous with at least one major branch vessel, the longitudinal incision in the upper end of the artery is extended for approximately 3 cm. A fine polyethylene catheter is inserted into the distal artery and secured with a length of Penrose drain. Heparin, 10 mg. in 100 cc., is injected into the distal arterial tree at frequent intervals to prevent clotting.

*Successful management of obstructive femoral arteriosclerosis by endarterectomy. *Surgery* 38:48-60, 1955.



Surgical technic: [a] stripping of clot and intima, [b] removal of clot and insertion of catheter, [c] closure of lower arteriotomy over catheter

The cleavage plane is then started between the thickened intima and surrounding media; a slanting incision is used so that the thickening in the intima is beveled. If necessary, the distal end of the intima is tacked to the arterial wall with interrupted No. 00000 silk. The proximal end of the intima is then threaded inside the loop of a fine-wire stripper. With a gentle rotating, thrusting motion, the cleavage plane is gradually separated up the artery as far as possible without undue pressure (Fig. a). In some instances, the stripper will pass the entire length of the superficial femoral artery without difficulty and can be exposed at the upper thigh.

The upper end of the intima is approached through an arteriotomy just above the bifurcation of the

common femoral artery, and the entire length of obstructing intima is removed. If serious obstruction is encountered during stripping, the artery is exposed at the site of obstruction, another small arteriotomy is made, and the intima is freed under direct vision.

After the occluding intima is removed, the stripper is passed up and down the lumen of the artery to clear debris. A catheter is threaded into the entire length of the artery, with the point threaded as far as possible into the distal popliteal artery (Fig. b). The catheter and artery are flushed with heparin, and the lower arteriotomy is closed over the catheter (Fig. c). The upper arteriotomy is closed in a similar fashion, the catheter is removed during flushing with heparin, and

the last segment of the arteriotomy is closed. The occluding clamps on the popliteal, deep femoral, and common femoral arteries are then released. Small leakage in the suture line is easily controlled with Gelfoam and pressure.

The wound is closed in layers with fine interrupted nonabsorbable sutures. A small drain is inserted

superficially in the lower end of the wound and allowed to remain for three or four days.

Postoperatively, heparin is administered until palpable pedal pulses return. The patient is encouraged to move the extremity freely, but ambulation is not permitted before the fifth postoperative day.

Rectal and Colonic Impactions

NEAL L. ANDREWS, M.D., BIRMINGHAM, ALA., warns against incautious use of hot oil or peroxide enemas to relieve masses accumulating in the intestinal tract. Causative factors must be considered and nondestructive measures employed to break up the material.

Milk diet contributes to rectal impactions of children and the masses involving the entire colon occurring in inactive or bedridden old people. Sedatives, narcotics, and liquid diets result in postoperative impactions. Adhesions, acute angulation, overactive sphincter at rectosigmoid or anus, rectocele, inflammatory strictures such as lymphopathia or diverticulitis, tumors, or congenital deformities may underlie the condition.

Rectal impactions can produce frequent stools. Impactions of the sigmoid or complete colon may cause abdominal cramps, distention, nausea, fever, and leukocytosis. When diverticula are associated, symptoms mimic appendicitis on the left side. Bimanual examination is essential for diagnosis. Pressure will usually leave a dent on the mass. Concretions are harder than tumors or inflammatory growths. Proctoscopic and roentgenologic examinations may be necessary for differential diagnosis in some cases.

Soft rectal impactions should be broken up manually, then softened with normal saline, warm oil, or glycerin enemas. Oil enema temperature should be determined by thermometer or by holding a finger in the solution for twenty seconds; serious mucosal burns have been caused by hot oil. When peroxide enemas are used, the solution should be diluted to 15 to 25%. Calcified masses must be removed by anal dilatation after anesthesia or by posterior proctotomy. High, semisolid masses require castor oil orally and by enema. Impactions in diverticula are usually relieved by oil retention enemas. After relief of impaction, a soft, nonresidue diet without milk products is given.

Impactions of the rectum and colon. *Am. Surgeon* 21:693-695, 1955.

Postoperative Nasogastric Suction

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*Prophylactic use of suction after elective major abdominal surgery is unwarranted, uncomfortable for the patient, and can be dangerous.**

IF distention occurs before, during, or after surgery, postoperative suction is necessary. Tubes are also beneficial when the lesion is irritative. Intubation for diagnostic purposes is also justified.

However, use of suction merely to prevent complications, such as distention, is not advisable. Secretion and absorption, as well as motility, decrease after surgery. Fluid accumulation is unlikely when a complication does not occur because, when secretory activity begins, peristalsis returns.

Also, the incidence of postoperative complications has been reduced by current methods for control of infection; increased understanding of the importance of nutrition, blood volume, fluids, and electrolytes; and knowledge of hemostasis and wound healing.

Suction may cause injury to the nasal passages, larynx, or esophagus; perforation of the stomach or intestine; obstruction; or damage from spillage of mercury. Fluid and electrolytes are also depleted.

The Miller-Abbott tube may actually contribute to abdominal distention by holding open the pharyngoesophageal junction and permitting stomach and upper intestine to be filled with air entering through the esophagus. A second tube is then needed to decompress the stomach.

No suction was used in 130 of 144 consecutive instances of major abdominal surgery. No adverse effects were seen, and no deaths occurred. The patients were instructed not to swallow anything and were given nothing by mouth until flatus was passed by rectum.

Suction was employed for 8 of 45 persons who had gastric resections, 4 of 57 cholecystectomy patients, and 1 of 23 women who had total hysterectomies. None of the 19 patients who had colectomies, including abdominal perineal resections, required intubation.

A survey of 45 Seattle surgeons reveals the divergence of opinion concerning necessity of postoperative suction. The procedure is employed by about half after every cholecystectomy and by approximately two-thirds after colectomy or small bowel resection. About 77% of the physicians institute suction after perforated ulcer closure or subtotal gastrectomy.

*An evaluation of the practice of routine postoperative nasogastric suction. *Surg., Gynec. & Obst.* 101:275-279, 1955.

Traumatic Esophageal Rupture

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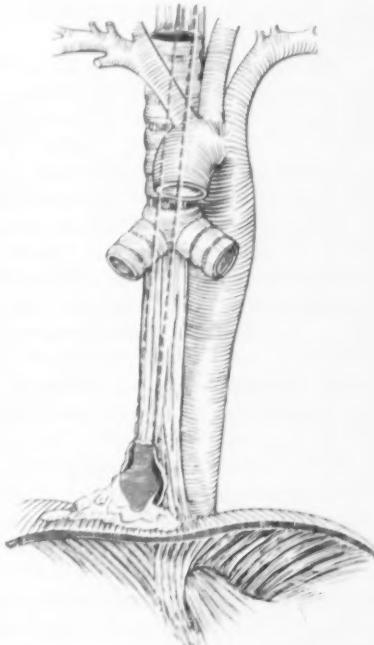
*Prompt diagnosis, rapid resuscitation, complete surgical repair, and intensive postoperative supportive therapy are required to prevent death from rupture of the esophagus.**

DIAGNOSTIC and therapeutic endoscopic procedures are responsible for most traumatic ruptures of the esophagus. Insertion of rigid metal tubes or even flexible nasogastric tubes usually produces laceration of either the cervical or hiatal portion of the esophagus.

Spontaneous rupture occurs near the cardia, and penetrating missile wounds may be found anywhere from the oropharynx to the stomach. A bougie inserted to dilate a constriction often perforates at the site of the cicatrix (see illustration). Most often, rupture of the esophagus is associated with faulty instrumentation, an uncooperative patient, severe local disease of the esophagus, or a combination of these factors.

The cervical or supradiaphragmatic perforation occurring after endoscopic examination is thought to arise from trauma to the fragile viscera at the sites of anatomic con-

striction and fixation. In overcoming the resistance of the crico-pharyngeal sphincter, the metal tube may suddenly slip downward and strike through the posterior esophageal wall. Excessive pushing



Perforation of esophagus by bougie at site of constriction being dilated

*Traumatic rupture of the esophagus. J. Thoracic Surg. 30:164-180, 1955.

or pulling of impacted foreign bodies easily tears the esophagus at any point. If the foreign body cannot be removed easily, direct exploration should be done through a thoracotomy.

Spontaneous rupture of the lower esophagus may actually be due to mechanical factors such as occur with prolonged vomiting with rapid changes in pressure. Such a lesion may be reproduced exactly by inflating the viscus with as little as 5 lb. of air pressure. The normal thinning of the lower muscle fibers, incoordination of relaxation, fatigue, and peptic esophagitis during regurgitation also contribute to rupture.

The diagnosis of esophageal rupture may be made easily if the possibility of the accident is kept in mind. Cervical rupture allows air to escape behind the esophagus in the hypopharynx, and a Lipiodol swallow will show the contrast medium in the periesophageal tissues. The patient will often complain of excessive salivation, dysphagia, and extreme discomfort with any neck movement. A barium swallow is never performed, and an endoscopic examination is not a desirable procedure.

Thoracic perforation may present as extreme chest pain, shock, dyspnea, and cyanosis similar to the distress of coronary occlusion or perforation of a duodenal ulcer. Examination reveals subcutaneous air above the clavicles, mediastinal emphysema, and possible accumulation of fluid in the pleural spaces. A tension pneumothorax may develop.

Frequently the patient will complain of dysphonia and dysphagia, and the voice may have a nasal twang. Severe chest or abdominal pain after vomiting should suggest a thoracic esophageal perforation.

Adequate therapy requires the same vigorous measures that are employed for perforation of any hollow viscus. Rapid resuscitation involves definitive surgical repair as well as treatment of shock and hypoxia. Whole blood, massive antibiotic therapy, and strict tracheobronchial toilet are mandatory. Tracheotomy may be necessary.

Drainage procedures alone are inadequate during the acute stage since contaminated and irritating fluids may continue to embarrass vital structures. The esophageal rent should be closed as soon as possible, even several days after the initial rupture, unless frank abscess formation has begun. When the infection has walled off spontaneously, drainage alone may be sufficient.

Cervical rents are repaired under local anesthesia, closing the mucosa and muscularis layers separately with fine sutures. The closure should be transverse so as not to decrease the esophageal lumen. Thoracic perforations are managed through a wide thoracotomy, with reexpansion of the lungs under water-seal drainage and drainage of the fascial spaces. Very low lesions may necessitate esophagogastrotomy.

Massive doses of wide-spectrum antibiotics are used until culture reports indicate the most valuable specific agent.

Treatment of Cushing's Disease

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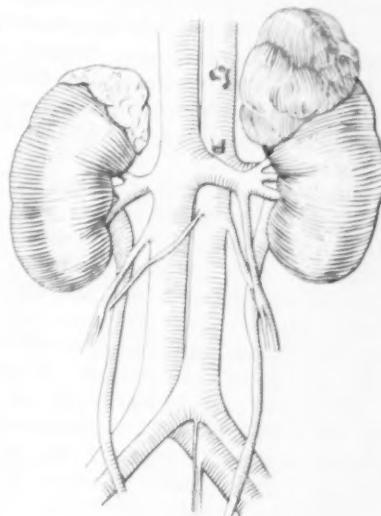
*Radical subtotal resection of hyperplastic adrenals or removal of a functioning adenoma will cure most patients with adrenal cortical hyperfunction.**

CUSHING'S disease is due to overactivity of the adrenal cortex. Diffuse hyperplasia or benign or malignant tumor may be responsible. The role of the anterior pituitary gland is not well understood. Pituitary irradiation and testosterone therapy have not been consistently successful; adrenal surgery affords the best chance of cure.

The diagnosis is easy when the disease is in an advanced stage. Otherwise, an insidious onset and variable symptoms and signs may make recognition difficult.

Cushing's disease is most common in females of childbearing age. Symptoms may appear shortly after an emotional crisis or pregnancy or near the menopause. Fatigue, weakness, obesity, changed appearance, amenorrhea or menstrual irregularities, and bruising are frequent complaints. Nervousness, depression, irritability, skeletal pain, and hirsutism may be noted.

Obesity is confined to the head, neck, and trunk. Moon face, buffalo hump, and enlargement of the supraclavicular fat pads are char-



acteristic signs. Weight gain may not be noted because of wasting in other tissues.

Atrophy of the corium is responsible for most skin changes. The face is florid, and purple striae appear over the trunk. Blotchy marbled skin is seen on the extremities. Acne is common, wounds heal slowly, and resistance to infection is poor.

Muscular wasting is the most frequent physical finding. Hypertension, vascular fragility, and ankle edema are frequent. Osteoporosis is a cardinal sign but is not always present. Negative cal-

*Cushing's disease. *New England J. Med.* 253:119-126, 165-172, 1955.

SURGERY

cium balance may produce renal stones.

The fasting blood sugar is usually normal, but a diabetic glucose tolerance curve is obtained. Elevation of the urinary 17-ketosteroids parallels the degree of virilism and is most common with malignant tumors and hyperplasia. Urinary 11-oxysteroids are elevated. A hypokalemic alkalosis with low serum potassium and high carbon dioxide content is noted.

Preoperative roentgen studies are helpful in differentiating tumor from hyperplasia. A plain abdominal film with adequate gastrointestinal preparation is the most valuable procedure. Pyelograms and air insufflation studies usually offer no additional information. The normal gland can be visualized easily in a thin person. A unilateral dense shadow is presumed due to tumor, bilateral dense shadows to hyperplasia. Tumors larger than 5 cm. in diameter are easily seen.

Objectives of surgery are restoration of adrenal secretion to normal and removal of neoplastic tissue. If a tumor is found, total removal will usually relieve symptoms. If the glands are hyperplastic, 90 to

95% resection of both glands is essential. Subtotal resection is usually done in two stages.

Cortisone, 100 mg., is given twelve hours preoperatively and repeated just before the anesthetic. Postoperatively 300 mg. is given every twenty-four hours until the course is smooth. The dose is reduced at a rate of 50 mg. per day until a maintenance dose of 50 mg. per day is reached on the tenth day.

An acute nutritional deficit between the tenth and fourteenth postoperative days may require adjustment of cortisone dosage. Nausea, skeletal pain, dermatitis, and anxiety are the principal manifestations. Cortisone dosage is increased until the nausea is controlled and is reduced after the appetite returns. A generous diet with added calcium, phosphorus, and magnesium and parenteral alimentation as necessary supplement the cortisone.

Cures were obtained in 19 of 23 patients with hyperplasia treated by subtotal resection and in 10 of 11 patients after removal of a benign tumor. All of 5 patients with malignant tumors died with metastatic disease.

¶ SUBHEPATIC APPENDICITIS may exist even though abdominal pain is localized to the right of the umbilicus. The anomaly is easily recognized through an ordinary transverse incision [1] when the cecum is not visualized in the lower right quadrant, [2] by loss of mesentery of the terminal ileum, and [3] when a high-looped ascending colon is seen. Allen King, M.D., of the Veterans Administration Hospital, Shreveport, La., reports that the low abdominal wound should be closed immediately and a higher incision made to allow ready access to the subhepatic area.

Arch. Surg. 71:265-267, 1955.



SPECIAL EXHIBIT

THE TREATMENT OF CONVULSIVE DISORDERS

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*Johns Hopkins Hospital,
Baltimore*

The data in this exhibit are based on follow-up studies performed on approximately 7,000 children with convulsive disorders, including epilepsy, breath-holding spells, and febrile convulsions. Most of these children have been observed for a prolonged period of time, many for as long as fifteen to twenty years.

A Modern Medicine Exhibit adapted from a presentation made at the clinical meeting of the American Medical Association in Miami

SPECIAL EXHIBIT

Classification

... Epileptic Seizures

CLINICAL	ELECTROENCEPHALOGRAPHIC
Major Motor Seizures (Grand Mal) Generalized and focal	Interseizure record is nonspecific; may be abnormally slow or fast. Spikes may be present and spike-and-wave forms other than 3 per second are found. About 50% of patients have normal recordings.
Minor Motor Seizures Akinetic and massive myoclonic	About 90% of electroencephalograms present petit mal variant forms (spike-and-wave forms other than 3 per second).
Petit Mal Spells The term <i>petit mal</i> is reserved for those spells which consist of transient loss of consciousness associated with bilaterally synchronous 3 per second spike-and-wave forms in the electroencephalogram.	Essentially all untreated cases of petit mal show 3 per second spike-and-wave forms.
Psychomotor Seizures	Essentially the same as major motor seizures. Temporal spike foci can be demonstrated in only about 4% of patients with definite clinical evidence of psychomotor epilepsy.
Sensory Seizures Somatic-sensory, visual, auditory, vertiginous, olfactory	Nonspecific, mostly normal
Single Myoclonic Seizures	Nonspecific, mostly normal
Masticatory Spells	Essentially the same as major motor epilepsy
Abdominal Seizures	Essentially the same as major motor epilepsy
Paroxysmal Headaches	Essentially the same as major motor epilepsy

SPECIAL EXHIBIT

Classification (continued)

... Breath-Holding Spells

SYMPTOMS

1. A precipitating factor such as slight injury or other minor provocative incident which arouses an acute emotional response
2. Violent crying ending suddenly in respiratory apnea
3. Cyanosis, unconsciousness, or convulsions

Differential Diagnosis

EPILEPSY: seizures usually occur spontaneously and without apparent cause

BREATH-HOLDING: seizures are always preceded by a precipitating factor

EPILEPSY: crying is rare before an attack

BREATH-HOLDING: spells are almost always preceded by crying

EPILEPSY: an opisthotonic position is unusual during convulsions

BREATH-HOLDING: an opisthotonic position is common

EPILEPSY: cyanosis usually appears after the onset of convulsions

BREATH-HOLDING: cyanosis usually precedes unconsciousness or convulsions

The electroencephalogram is not always conclusive but may provide information of value.

Prognosis

Only 2 of 242 patients with breath-holding spells of the convulsive type developed epilepsy. Daily anti-convulsant medication is not necessary.

... Febrile Convulsions

GROUP A Patients with 1 or more of these findings: a prolonged convulsion (over one-half hour); a focal convulsion of any duration; family history of epilepsy; electroencephalographic abnormalities

GROUP B Patients with only a short (one- to five-minute) generalized convulsion

	No. of patients	No. developed epilepsy
GROUP A	297	276
GROUP B	201	6

SPECIAL EXHIBIT

Treatment

. . . General Principles of Drug Therapy

1. Treatment must begin just as soon as the diagnosis has been established, regardless of what type of therapy is employed.
2. Some anticonvulsants are more helpful in some forms of epilepsy than in others; drugs should be used where they are most likely to succeed.

Phenobarbital and Dilantin, for example, are particularly effective in the control of major motor seizures but frequently accentuate petit mal spells. Tridione is an effective therapeutic agent for petit mal spells but sometimes precipitates or increases the frequency of preexisting major motor seizures.

3. Treatment should begin with one drug, starting with the conventional dosage.

This dosage should be increased until the convulsions are controlled or the limit of tolerance has been reached. Convulsions can be controlled in many patients with a combination of drugs when a tolerable dose of any single drug fails.

4. The dosage generally varies from patient to patient.

The proper dose controls the patient's seizures without producing untoward reactions which interfere with his general well-being. Dosage should not be increased to the point where the patient is so dull that he is more incapacitated by the toxic symptoms of the drug than by the seizures.

5. Medication should be continued for a prolonged period of time.

Daily medication should continue for at least four years after the last seizure; it may be discontinued sooner in patients with petit mal. If the end of this four-year period should coincide with the onset of puberty, treatment is continued throughout the adolescent period.

6. Medication should be discontinued very gradually.

After a four-year period of freedom from seizures, the dosage of anticonvulsant medication should be reduced gradually over a period of approximately one year.

7. Periodic physical examinations and at least monthly blood checks should be made on patients receiving certain drugs.

Such drugs as Mesantoin, Tridione, Paradione, and Phenurone are known to affect the hemopoietic system adversely and should be discontinued immediately if signs or symptoms of a hematologic disturbance appear.

SPECIAL EXHIBIT

Treatment (continued)

. . . Treatment of Specific Seizures

SEIZURE	TREATMENT*
Major Motor Seizures	
Cryptogenic (idiopathic)	Ketogenic diet (under 5 yrs.) Phenobarbital (or Mebaral) Dilantin Mysoline Mesantoin Phenurone Gemonil
Secondary (organic)	Bromides Phenobarbital (or Mebaral) Dilantin Mesantoin Mysoline Phenurone Gemonil
Minor Motor Seizures	Ketogenic diet (under 5 yrs.) Phenobarbital (or Mebaral) Bromides Mesantoin Gemonil
Petit Mal Spells	Benzedrine (or Dexedrine) sulfate Paradione Tridione Ketogenic diet (under 5 yrs.)
Psychomotor Seizures	Dilantin Mesantoin Phenobarbital (or Mebaral) Benzedrine (or Dexedrine) sulfate Tridione Phenurone
Miscellaneous Spells	
Sensory seizures	Dilantin Mesantoin
Masticatory spells	Phenobarbital (or Mebaral) Dilantin Mesantoin
Simple myoclonic seizures	Phenobarbital (or Mebaral) Dilantin Mesantoin
Abdominal seizures	Dilantin Mesantoin
Status epilepticus	Refer to treatment of isolated convulsion

*In order of preference, based on 2 factors: relative effectiveness and toxicity

SPECIAL EXHIBIT

Treatment (continued)

... Treatment of the Isolated Convulsion

PREVENTION OF INJURIES AND FATALITIES

The child must be protected from injury during the violent movements of the attack.

Child should be put in a soft place and clothing loosened.

Guards on the sides of beds will prevent him from falling.

A padded tongue depressor between the jaws will prevent biting of the tongue or cheek.

Air passages may be blocked.

Child should be placed on his side to permit free flow of mucus and saliva; he should not lie on his abdomen.

There should be no pillows on the bed.

Suction may be necessary to remove food or vomitus from air passages.

If anoxia becomes apparent, oxygen should be administered by inhalation to prevent possible cerebral damage.

Prolonged attack or status epilepticus must be considered serious.

Fluid intake must be maintained by clysis or intravenous administration of glucose and saline.

Catheterization may be necessary if child does not void spontaneously.

Hyperthermia must be treated.

If attacks last more than forty-eight hours, prophylactic antibiotics should be administered to prevent secondary infection.

TERMINATION OF THE ATTACK

The seizure must not be permitted to continue too long.

Anticonvulsant medication should be given as soon as possible. Diagnostic procedures which will not be affected by medication should be delayed until after administration of anticonvulsant therapy.

SPECIAL EXHIBIT

Treatment (continued)

Morphine or opium derivatives must never be used.

Respiratory center and cough reflex may be depressed and important diagnostic signs and symptoms masked.

Sodium phenobarbital should be administered in 1 large dose for a severe and protracted convolution.

The child should be observed carefully for seriously depressed respiration after the convolution has subsided.

Either powders or tablets can be dissolved quickly in sterile warm water for subcutaneous injection.

Rectal administration of Seconal is helpful in some cases.

Several pinpoint holes are pricked into the capsule before insertion high up into the rectum.

The capsule should not be inserted into a fecal mass, or absorption will be much delayed.

The buttocks should be taped with adhesive to prevent expulsion of the capsule.

Vinyl ether or chloroform inhalation should be given if the seizure does not stop within twenty to thirty minutes.

Ether should not be given except in extreme emergencies when an acute disease of the respiratory tract is present.

Age of child yrs.	AVERAGE DOSE OF SODIUM PHENOBARBITAL		AVERAGE DOSE OF SECONAL	
	Metric mg.	Apothecary gr.	Metric mg.	Apothecary gr.
under 1	32 to 65	½ to 1	50 to 100	¾ to 1½
1 to 2	65 to 130	1 to 2	100 to 150	1½ to 2½
2 to 3	130 to 200	2 to 3	150 to 200	2½ to 3
3 to 4	200 to 230	3 to 3½	200 to 250	3 to 3½
4 to 5	230 to 260	3½ to 4	250 to 300	3½ to 4½
over 5	260	4	300	4½

SPECIAL EXHIBIT

Treatment (continued)

. . . Dosages and Untoward Reactions . . .

BROMIDES

Indications: excellent for major motor seizures of secondary epilepsy; of some value in minor motor seizures

Age	Starting dosage	Maximum dosage
under 6	320 mg. (5 gr.) 2 daily	640 mg. (10 gr.) 3 daily
over 6	320 mg. (5 gr.) 3 daily	1 gm. (15 gr.) 3 daily

Untoward reactions: drowsiness; acneform eruptions (only in adolescents)

PHENOBARBITAL phenylethylbarbituric acid

Indications: choice for major motor epilepsy; of some value in psychomotor epilepsy

Age	Starting dosage	Maximum dosage
under 3	16 mg. (1/4 gr.) 3 daily	32 mg. (1/2 gr.) 3 daily
3 to 6	32 mg. (1/2 gr.) 2 daily	65 mg. (1 gr.) 3 daily
over 6	32 mg. (1/2 gr.) 3 daily	100 mg. (1 1/2 gr.) 3 daily

Untoward reactions: drowsiness; increased excitability; rash (infrequent)

MEBARAL N-methylethylphenyl barbituric acid

Indications: effective in major motor seizures, particularly those associated with organic epilepsy; of some value in psychomotor epilepsy

Age	Starting dosage	Maximum dosage
under 3	32 mg. (1/2 gr.) 3 daily	65 mg. (1 gr.) 3 daily
3 to 6	65 mg. (1 gr.) 2 daily	130 mg. (2 gr.) 3 daily
over 6	65 mg. (1 gr.) 3 daily	200 mg. (3 gr.) 3 daily

Untoward reactions: same as phenobarbital but not as frequent

GEMONIL (Metharbital) 5,5-diethyl-1-methyl barbituric acid

Indications: effective in some cases of major motor epilepsy but less effective than phenobarbital or Mebaral

Age	Starting dosage	Maximum dosage
under 6	50 mg. (1/4 gr.) 3 daily	100 mg. (1 1/2 gr.) 3 daily
over 6	100 mg. (1 1/2 gr.) 3 daily	200 mg. (3 gr.) 3 daily

Untoward reactions: drowsiness; rash

SPECIAL EXHIBIT

Treatment (continued)

*... of the Various Anticonvulsants***DILANTIN SODIUM (Phenytoin Sodium) 5,5-diphenylhydantoin sodium****Indications:** excellent for major motor epilepsy; helpful in psychomotor epilepsy

Age	Starting dosage	Maximum dosage
under 6	32 mg. (1/2 gr.) 3 daily	100 mg. (1 1/2 gr.) 3 daily
over 6	100 mg. (1 1/2 gr.) 2 daily	200 mg. (3 gr.) 3 daily

Untoward reactions: ataxia; diplopia; nystagmus; rash; hyperplastic gums; increased frequency of petit mal spells; nausea; vomiting; constipation; agranulocytosis (?); myocardial damage (?); hirsutism

MESANTOIN 3-methyl 5,5-phenylethylhydantoin

Indications: effective for major motor seizures especially those associated with organic epilepsy; of some value in psychomotor epilepsy

Age	Starting dosage	Maximum dosage
under 6	50 mg. (1 1/4 gr.) 3 daily	200 mg. (3 gr.) 3 daily
over 6	100 mg. (1 1/2 gr.) 3 daily	400 mg. (6 gr.) 3 daily

Untoward reactions: drowsiness; rash; agranulocytosis; pancytopenia; hepatitis (?)

MY SOLINE 5-phenyl-5-ethyl-hexahydropyrimidine-4: 6-dione

Indications: excellent for major motor epilepsy

Age	Starting dosage	Maximum dosage
under 6	125 mg. (2 gr.) 2 daily	250 mg. (3 1/4 gr.) 3 daily
over 6	250 mg. (3 1/4 gr.) 2 daily	500 mg. (7 1/2 gr.) 3 daily

Untoward reactions: drowsiness; dizziness; ataxia; rash

BENZEDRINE SULFATE L-phenyl-2-aminopropane sulfate

Indications: effective in some cases of petit mal; also useful to counteract drowsiness produced by sedative anticonvulsants

Age	Starting dosage	Maximum dosage
under 6	2.5 mg. 2 daily	5 mg. 3 daily
over 6	5 mg. 2 daily	15 mg. 3 daily

Untoward reactions: increased irritability or restlessness; insomnia; loss of weight; tremor; anorexia

SPECIAL EXHIBIT

Treatment (continued)

... Dosages and Reactions (continued)

DEXEDRINE SULFATE (Dextro-Amphetamine Sulfate)

Indications: essentially the same as for Benzedrine sulfate

Age	Starting dosage	Maximum dosage
under 6	2.5 mg. daily	2.5 mg. 3 daily
over 6	2.5 mg. 2 daily	7.5 mg. 3 daily

Untoward reactions: essentially the same as for Benzedrine sulfate

TRIDIONE (Trimethadione) 3-5-5-trimethyloxazolidine-2-4-dione

Indications: most effective for petit mal

Age	Starting dosage	Maximum dosage
under 6	150 mg. (2½ gr.) 2 daily	300 mg. (4½ gr.) 3 daily
over 6	300 mg. (4½ gr.) 2 daily	600 mg. (9 gr.) 3 daily

Untoward reactions: photophobia; rash; hiccup; agranulocytosis; pancytopenia; nephrosis (?); precipitates major motor seizures and increases frequency of preexisting seizures

PHENURONE (Phenacemide) phenacetylcarbamide

Indications: effective in psychomotor epilepsy; helpful in some cases of major motor epilepsy

Age	Starting dosage	Maximum dosage
under 6	250 mg. (3½ gr.) 3 daily	1 gm. (15 gr.) 3 daily
over 6	500 mg. (7½ gr.) 3 daily	2 gm. (30 gr.) 3 daily

Untoward reactions: alterations in behavior and personality; headache; insomnia; rash; hepatitis; anorexia; acetone; nausea; vomiting; abdominal pain; leukopenia; pancytopenia; transient albuminuria

PARADIONE (Paramethadione) 3-5-Dimethyl-5-ethyl-oxazolidine-2-4-dione

Indications: effective for petit mal

Age	Starting dosage	Maximum dosage
under 6	150 mg. (2½ gr.) 2 daily	300 mg. (4½ gr.) 3 daily
over 6	300 mg. (4½ gr.) 2 daily	600 mg. (9 gr.) 3 daily

Untoward reactions: photophobia; rash; hiccup; agranulocytosis; thrombocytopenia; pancytopenia; nephrosis (?)

Glutamic Acid, Milontin, and Hibicon

No significant results have been observed in any case

SPECIAL EXHIBIT

Treatment (continued)

. . . Ketogenic Diet

INDICATIONS:

children under 5 years; all types of seizures but particularly minor motor seizures with spike-and-wave forms (other than 3 per second) in the electroencephalogram

CASE REPORT

Time	CO ₂ combining power mEq. liter	Blood sugar mg. %	Acetone reaction	Diacetic acid reaction	Weight kg.
BEFORE KETOGENIC REGIMEN WAS STARTED					
	30.1	82	0	0	11.65
PRELIMINARY STARVATION PERIOD BEGUN					
1st day	23.3	56	+	0	11.4
2nd day	19.1	44	+++	+	11.2
3rd day	14.1	60	++++	+++	10.8
4th day	14.1	54	++++	++++	10.9
KETOGENIC DIET STARTED					
1st day	19.8	80	++++	+++	10.45
2nd day	23.3	76	++++	++	10.6
3rd day	26.6	72	+++	+	10.5
4th day	25	80	++++	++	10.45
5th day	26.6	84	+++	+	9.9
6th day	27.6	68	++++	++	9.9
7th day	22.8	80	++++	+	10.5
8th day	25.8	78	++++	++	10.9
9th day	30	76	++++	+	9.6
6 mo.	27.8	82	++++	+	10.8
1 yr.	26.6	78	+++	+	11.5
2 yrs.	27.4	80	+++	+	12.4

Patient was 3 years old when the regimen was started. He had had daily major motor seizures and minor motor spells of the akinetic variety but he became entirely free of seizures after three days of starvation. The diet (4:1 ratio) was started after the fourth day of starvation and continued for two years and then gradually discontinued. At 5 years of age he had been entirely free of seizures since starting the diet.

SPECIAL EXHIBIT

Treatment (continued)

... Ketogenic Diet (continued)

EXEMPLARY DIETS

No. 1

32 gm. egg
15 gm. 10% fruit
100 gm. 36% cream
2 gm. fat

No. 2

17 gm. meat, fish,
or poultry
86 gm. group A
vegetable
50 gm. 36% cream
21 gm. fat

No. 3

12 gm. American
cheese
44 gm. group A
vegetable
100 gm. 36% cream
2 gm. fat

No. 4

18 gm. egg
24 gm. 10% fruit
70 gm. 36% cream
7 gm. fat
11 gm. crisp bacon

No. 5

11 gm. meat, fish,
or poultry
86 gm. group A
vegetable
50 gm. 36% cream
22 gm. fat
½ serving D-Zerto

No. 6

10 gm. crisp bacon
27 gm. 10% fruit
30 gm. 36% cream
24 gm. fat
1 Cello muffin (1
envelope with 100
gm. egg makes
5)

No. 7

26 gm. egg
22 gm. 10% fruit
50 gm. 36% cream
18 gm. fat
25 gm. Cello break-
fast crisp

... Surgical Treatment

INDICATIONS

1. Evidence of an expanding surgical lesion; operation should be considered regardless of previous medical regimen
2. Lack of response to adequate medical therapy and definite evidence of a focal cerebral disturbance

Every epileptic patient should be given a thorough trial on anticonvulsant drugs before surgical treatment is instituted.

... Social Management

With advances in medical technic and anticonvulsant drugs, the chances of controlling seizures and making the epileptic a useful member of society are good. Patients whose convulsions are completely controlled have few social difficulties, but the convulsions of a small percentage of patients cannot be controlled and for these the physician must contrive a life as nearly normal and useful as possible. The handicapped patients can be divided into 2 groups:

1. Those who have
very frequent sei-
zures

must be treated as invalids . . . cannot compete with their normal associates . . . may need institutional care . . . may be able to be trained for some type of limited vocation

2. Those who have
only infrequent at-
tacks

have much greater opportunities . . . can probably be trained to live a normal life with proper psychologic guidance . . . must accept restrictions on such things as swimming, climbing, driving

Poliomyelitis During Pregnancy

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*Termination of pregnancy in a patient with poliomyelitis is usually not necessary before the period of viability of the fetus.**

POLOIOMYELITIS possibly is more frequent but is not more severe or fatal in pregnant females than in nonpregnant women. Pregnancy is an added risk, particularly in the acutely ill patient in the third trimester. Protein, electrolyte, and fluid balance must be carefully observed. Respiratory obstruction, infection, and toxemia are constant problems.

The usual supplemental sodium chloride should be omitted in pregnant respirator patients after the fifth month of pregnancy because of the danger of hypertension.

Pregnancy is terminated only for obstetric reasons, with the exception of the few patients with acute severe progressive bulbar spinal disease in whom the fetus is viable. Such patients need prompt tracheotomy, respiratory aid, and cesarean section.

Respiratory assistance is mandatory when vital capacity drops to one-third or one-fourth of normal. Management of pregnancy for respirator patients is greatly facilitated by positive-pressure devices which permit opening of the respirator.

Abdominal palpation, fetal heart auscultation, and rectal and vaginal examinations are then easily performed.

Once a patient has become stabilized to respirator care, spontaneous labor and vaginal delivery are anticipated. The uterine muscle usually contracts efficiently. Narcotics or barbiturates are not given. Sufficient relief during labor is usually provided by 50-mg. doses of Demerol.

Delivery on the respirator table is usually feasible. However, deliveries of persistent occiput posterior or breech presentations are best done on the operating table. A portable positive-pressure, flow-sensitive machine, with or without an endotracheal tube, is used during delivery.

Pudendal block or local infiltration with Novocain is given. Episiotomy, usually median, is performed. Gas anesthesia may be necessary because of pain associated with the lithotomy position and prolonged immobility of joints.

When cesarean section is advisable, a transverse suprapubic lower abdominal incision is preferred to prevent wound dehiscence. Cyclopropane-oxygen anesthesia is employed, and tracheotomy should be performed immediately following section.

*Poliomyelitis in pregnancy. *Obst. & Gynec.* 6:121-137, 1955.

Respirator care may become unnecessary shortly after delivery. Postpartum improvement is sometimes rapid. However, respiratory assistance is always needed when vital capacity remains 100 cc. or less for longer than three weeks. Termination of pregnancy in such instances does not improve vital capacity.

Pregnancy does not involve particular problems in women who have completely recovered from poliomyelitis. However, in ambulatory patients with residual paralysis, pneumonitis and pyelocystitis may occur.

Of a group of 325 pregnant women who contracted poliomyelitis, the over-all maternal mortality rate was 5.2%. Analysis by trimester showed a 5.8% mortality in 120 patients in the first trimester, 3.1% in 126 women in the second trimester, and 7.5% in 79 women in the third trimester.

Total fetal loss was 22%. Abortion occurred in 13% of the individuals.

Infants of mothers who had poliomyelitis early in pregnancy were small at term. No instance of intrauterine transmission of the virus was found.

Complications of Hydramnios

EDGARDO YORDAN, M.D., AND D. ANTHONY D'ESOPO, M.D., COLUMBIA UNIVERSITY AND SLOANE HOSPITAL FOR WOMEN, NEW YORK CITY, believe that the main problem with hydramnios is the high fetal mortality rather than the obstetric complications of labor and delivery. The incidence of associated anencephalia, gastrointestinal anomalies, and diaphragmatic hernias is high. Spina bifida and meningocele are relatively uncommon.

The time of onset of hydramnios is directly related to the ultimate severity of the condition. The peak incidence of severe involvement is between the thirtieth and thirty-third weeks. The condition is considered severe if amniotic fluid is in excess of 5,000 cc. and dependent edema, dyspnea, tenseness of abdomen, and inability to palpate the fetal parts are associated. If amniotic fluid does not exceed 3,000 cc. and little or no physical discomfort is experienced, the condition is considered to be slight. Fetal outcome also increases in proportion to severity of disease.

Labor and delivery result in no more obstetric complications, such as prolonged labor, uterine inertia, postpartum hemorrhage, premature separation of the placenta, prolapse of the cord, and transverse lie, than in normal patients. Induction of labor is not a harmful procedure and does not increase the risk of prolapse of the cord or placental separation. However, the incidence of breech presentation apparently is increased.

Hydramnios. *Am. J. Obst. & Gynec.* 70:266-273, 1955.

Fetal Distress During Labor

T. B. FITZ GERALD, M.B., AND C. N. MC FARLANE, L.R.C.P.& S.
Ashton-under-Lyne General Hospital, England

*Many stillbirths can be prevented if labor is interrupted by forceps or cesarean delivery.**

SIGNS of distress of the baby in utero must be detected to reduce the incidence of fetal death during labor. Manifestations of fetal distress are derived from fetal heart sounds and from the reaction of the gut to anoxia.

Slowing of the heart rate to 110 or less a minute, or to 120 if the rate at the start of labor was 140, is a danger sign, as is increase of the heart rate to 160 or more a minute, or to 150 if the previous beat was steadily in the region of 140. Arrhythmias, variation of rate with uterine contractions, and passage of meconium in vertex presentations are other criteria of distress.

During labor, fetal heart sounds should be counted every hour in the first stage and at quarter-hour intervals in the second stage. Counting the rate, rather than simply noting that the fetal heart can be heard, insures detection of arrhythmias.

The heart rate should be charted and auscultations should be more frequent if the rate changes, meconium staining occurs, or a predisposing factor, such as antepartum bleeding or pre- or postmaturity,

suggests that distress is likely. Response of the heart to contractions can be a routine observation if personnel is experienced. A continuously recording cardiograph would be desirable.

If distress is pronounced, oxygen inhalations by the mother may enable the fetus to survive while preparations for delivery are made. However, oxygen produces temporary improvement only, and delivery should not be delayed.

Active intervention is recommended. Incidence of fetal mortality is greater when conservative management is employed than when delivery is made by forceps or cesarean section. The timing of intervention is as important as the mode of treatment. A stillbirth from an operative delivery may be averted if the procedure is undertaken early enough.

In a series of 3,168 deliveries, fetal distress was detected in 206 instances and 45 fetuses died during labor. Stillbirth was most frequently attributed to umbilical cord complications and congenital anomalies.

Incidence of stillbirth was 13% among fetuses delivered by forceps or cesarean section. Among normal deliveries, with or without episiotomy, 25% were stillborn.

When meconium staining of the

*Foetal distress and intrapartum foetal death. Brit. M. J. 4935:358-361, 1955.

amniotic fluid occurred, 44% of the babies were affected, that is, stillborn or in poor or fair condition at birth. With frank meconium, the corresponding figure was 69%.

When the fetal heart rate was 160 a minute or more, 62% of infants showed neonatal distress. With a rate of 120 a minute or less, 56% were affected. A fall in cardiac rate and subsequent tachycardia seemed more serious than the reverse sequence. Of fetuses with arrhythmias, 59% were stillborn or in precarious condition at delivery.

Parity, antepartum bleeding, and pre- or postmaturity are more significant predisposing factors than

age of the mother or toxemia of pregnancy.

Among primigravidae, the incidence of fetal distress was about 9% as compared to about 5% among multigravidae. Pressure on the fetal head and uterine tone are greatest in the first pregnancy.

The incidence of distress was approximately 13% when uterine bleeding occurred before labor and about 6% when hemorrhage was not a factor. The postmature infant is more frequently in danger than is the premature infant. Frequency of distress was 13% among postmature infants and 8% in the premature group; the over-all incidence was 6%.

Roentgen Determination of Fetal Age

THEODORE W. ADAMS, M.D., PORTLAND, ORE., reports that fetal age may be determined by observing the degree of epiphyseal ossification of the fetal femur on intrauterine roentgenograms. The procedure is more accurate than estimation of fetal size by the date of the last menstrual period, by abdominal palpation, or with intrauterine roentgenograms.

Ossification of the distal femoral epiphysis occurs at the thirty-fourth to thirty-seventh week in all but a few instances. Premature interruption of pregnancy is usually safe for the infant about the thirty-fifth week of fetal life.

Weekly roentgenograms are made beginning at the estimated thirty-second week of gestation until ossification appears. In patients in whom premature delivery seems advantageous, pregnancy is then terminated within a few days. The epiphysis is generally visualized on a lateral film, but an anteroposterior exposure may be necessary. Films are made with a large focal spot from a distance of 40 in. for 0.5 second at 200 milliamperes.

Postdelivery roentgenograms agreed with predelivery films in 24 of 27 cases. In the remaining instances, ossification was not observed on predelivery exposures but appeared in films made soon after birth.

Intrauterine roentgenography as an aid in determining fetal age. *Obst. & Gynec.* 5:43-48, 1955.

Mitral Stenosis Complicating Pregnancy

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*Valvulotomy may be performed before or during pregnancy for severe mitral stenosis.**

CARDIAC disease is the single greatest cause of maternal death at the New York Lying-in Hospital. Severe mitral stenosis is largely responsible for the mortality.

Onset of cardiac decompensation and time of death are related to the hemodynamic burden of pregnancy. Childbearing does not shorten life expectancy of a woman with rheumatic heart disease if the patient survives the gestatory burden.

Extent of mitral stenosis and cardiac reserve should be appraised by cardiac catheterization. The procedure is well tolerated during pregnancy. Treatment must be individualized and may consist of supportive therapy, therapeutic abortion, or mitral valvulotomy.

Rest and supportive measures such as digitalis and mercurial diuretics allow the myocardium to tolerate extra work and are sufficient for most patients. However, if the mitral valve is extremely tight and cardiac reserve is severely compromised, even ideal supportive therapy does not compensate for the load of pregnancy.

Mitral valvulotomy is advisable

for patients with tight mitral stenosis 1 sq. cm. or less, as determined by any 4 of the following signs:

- Severe exertional dyspnea from 1 flight of stairs
- Moderate or pronounced left auricular enlargement
- Moderate or pronounced enlargement of the pulmonary artery
- Right ventricular hypertrophy pattern on the electrocardiogram
- Auricular fibrillation
- Cardiac enlargement of 20% or more
- Hepatomegaly 4 cm. or more below the costal margin
- 3 to 4 plus edema.

Operation should not be done if the patient has any of the following conditions:

- Active rheumatic fever
- Subacute bacterial endocarditis
- Major involvement of other valves
- Mitral insufficiency.

Valvulotomy can be performed ante partum. Pregnancy does not increase operative mortality, and the danger of premature labor is not significant.

Of 16 patients who became pregnant subsequent to valvulotomy, 1 had multiple fibromyomas and miscarried at the fourth month. No other fetal mortality was recorded, and all the women went through

*Supportive care, interruption of pregnancy, and mitral valvulotomy in the management of mitral stenosis complicating pregnancy. Am. J. Obst. & Gynec. 69:1233-1255, 1955.

pregnancy without cardiac difficulty.

Candidates for valvulotomy during pregnancy must be carefully selected so that hazards, such as mitral insufficiency, irreversible pulmonary vascular changes, carditis, valvular refusion, and auricular fibrillation, are avoided.

Of 40 patients operated upon between the second and thirty-sixth week of pregnancy, 2 died and 1 had a therapeutic abortion because mitral insufficiency developed. The other 37 women did well.

Management of patients with mi-

tral stenosis before, during, and after pregnancy is not altered by valvulotomy except that the reasons for abortion are decreased. Sterilization need not be an accessory to interruption of pregnancy.

When valvulotomy is technically impossible because of advanced pathologic changes or not advisable because of concomitant high-grade mitral insufficiency or aortic valve involvement, supportive measures or vaginal therapeutic abortion must be utilized. In general, continuation of pregnancy is less hazardous than abdominal abortion.

¶ PREMENSTRUAL ALLERGIC SYMPTOMS, including dizziness, abdominal cramps, and urticaria, may be due to hypersensitivity to steroid hormones. Of 35 patients with severe distress before or occasionally during menstruation, Tore Wahlen, M.D., of Allmänna Sjukhuset, Malmö, Sweden, reports that 15 were hypersensitive to estrogen, 6 to progesterone, 5 to testosterone, and 3 to more than 1 substance. Desensitization by subcutaneous injections of hormonal solutions dissolved in the subject's serum effected complete relief in 9 instances and improvement in 10.

Acta obst. et gynec. scandinav. 34:161-170, 1955.

¶ RUPTURE OF LOWER SEGMENT SCAR resulting from cesarean section occurs so rarely that attempted vaginal delivery in subsequent pregnancies is justifiable. However, J. P. O'Dwyer, M.B., of Maternity Hospital, Sunderland, England, reports an instance of rupture of such a scar in a woman during a second cesarean section. At laparotomy, the baby was lying free in the peritoneal cavity. The small, contracted uterus was almost inverted through the torn scar and a vertical laceration which extended up to the fundus. Examination of sections from the ruptured area of the uterus showed anisotropic crystals resembling talc with associated granulomatous changes; some of the crystals lay within giant cells and some were free in the tissues. These findings suggest that deposit of mineral during the previous operation predisposed to the tearing.

Lancet 269:324-325, 1955.

Persistent Brow Presentation

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*Cesarean section is usually the best method of delivery for persistent brow presentation.**

THE incidence of persistent brow presentation, in which the baby's head is midway between flexion and extension (see illustration), is only 0.14%. The difficulty in labor arises from the fact that the largest fetal diameter of the head is engaging at the pelvic inlet. Passage through the birth canal is accomplished only after considerable molding has occurred.

Occasionally, diagnosis may be made by abdominal examination when the examiner recognizes an extended chin. More often, diagnosis is not made until late in labor when either the obstetrician discovers that the presenting part has not descended satisfactorily despite adequate labor or the patient has a prolonged second stage. In either event, vaginal examination and pelvic roentgenograms are made.

Once diagnosis is established, a decision as to the method of delivery for which the patient is best suited must be made. Since the incidence of spontaneous delivery is only about 11%, the decision is usually confined to the type of intervention. Factors to be considered are type and capacity of the



pelvis, age and parity of the patient, size and condition of the cervix, station of the presenting part, and length and character of labor. Labor may be tried in favorable circumstances; the brow may spontaneously extend to face presentation or flex to occiput.

In most instances, conversion to occiput or face presentation must be done before delivery can be successfully achieved from below in the conventional manner. Attempts at manually converting the malposition frequently fail because of the extreme effort needed to obtain and maintain flexion or extension with satisfactory station.

*Management of persistent brow presentation. *Obst. & Gynec.* 6:186-189, 1955.

Kielland forceps is usually the instrument of choice if instrumental conversion is attempted. If use of forceps is difficult, delivery should be attempted by other means.

Delivery by version should be attempted only by an experienced

operator when circumstances are favorable.

Cesarean section presents less of a problem than difficult and traumatic delivery through the vagina. Infant and maternal mortalities are lowest with cesarean section.

Papillomas of the Uterine Cervix

ROBERT W. KISTNER, M.D., AND ARTHUR T. HERTIG, M.D., HARVARD UNIVERSITY, BOSTON, state that, since the incidence of malignant degeneration of papillomas of the cervix is 1 in 17, careful observation and pathologic examination are warranted, especially in nonpregnant females in the older age group.

The lesions may be classified into 3 categories. [1] Cervical papilloma associated with pregnancy, also termed the Cockscomb polyp, is a warty, gray or gray-red solitary lesion of the exocervix which usually becomes evident during the first or second trimester of pregnancy. The lesion grows rapidly and may cause irregular vaginal bleeding or postcoital spotting. The lesion is always benign and commonly regresses spontaneously during the puerperium. The growth is sharply circumscribed about the external os. Histologically, the papilloma may show a modicum of cellular anaplasia but does not produce such change uniformly throughout the epithelium. Most individual cells differentiate in an orderly fashion.

[2] Condyloma acuminatum, commonly known as the venereal wart, is occasionally transmitted by contact and is caused by a virus. Extensive lesions may be seen in the vagina and on the vulva, perineum, and anus. Occasionally, profuse vaginal discharge and inadequate hygiene are associated. If the lesion is seen during pregnancy, hyperplasia, vascularity, and spread occur. In rare instances, the vagina is practically occluded by giant cauliflower masses. The lesions decrease in size after delivery but do not always regress completely. Surgery or application of podophyllin is necessary in most instances.

[3] True papillomas of the postmenopausal and nonpregnant patient are neoplasms and potentially or actually malignant. Usually, the lesion does not exceed 4 mm. in height and has a wide base attached near the squamocolumnar junction. Even with sufficient biopsy material, complete differentiation between papillary carcinoma and active papilloma is difficult.

Papillomas of the uterine cervix—their malignant potentiality. *Obst. & Gynec.* 6:147-161, 1955.

Benign Cystic Teratomas of the Ovary

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*The treatment of benign cystic teratomas of the ovary is surgical removal.**

THE totipotency of benign cystic teratomas of the ovary may give rise to many bizarre arrangements of tissue. The tumors usually show derivatives from all 3 germ layers. The growths comprise 5 to 25% of all ovarian tumors and are generally unilateral. Most teratomas occur during the childbearing age, but no age group is exempt.

As with most ovarian tumors, symptoms are produced primarily by the space-occupying mass. Pain is the most common symptom, and abdominal mass or swelling is next in frequency. Other symptoms include abnormal uterine bleeding, bladder disturbances, gastrointestinal signs, and backache. Asymptomatic cysts may be detected during a routine physical examination for a nonrelated disorder. Radiopaque bodies are found in 25 to 49% of benign cystic teratomas.

Complications include torsion, infection, malignant disease, and rupture. Torsion causes embarrassment of the vascular supply, usually dependent upon the extent

of twisting. If torsion is complete, gangrene usually occurs and may lead to rupture of the cyst. If torsion does not cause sudden, complete loss of blood supply, collateral circulation may be established by adhesions. Eventually, these adhesions may cause obstruction.

Infection may occur by hematogenous or lymphogenous routes, by direct extension from the intestines, or as a result of adjacent inflammatory process. Pregnancy, torsion, and tapping apparently are predisposing factors.

Rupture of the cyst with intraperitoneal spill usually does not produce any signs or symptoms of an acute abdominal crisis. Patients who escape an initial intraperitoneal crisis usually consult a physician at some later date, often years later, with progressive abdominal distension and gastrointestinal disturbances with anorexia, nausea, vomiting, or diarrhea. The true diagnosis is extremely difficult to make and often is not determined until laparotomy reveals a granulomatous type of peritonitis with associated multiple nodules, cysts, and adhesions.

The prognosis with malignant degeneration is poor, and no charac-

*Benign cystic teratomas of the ovary. Am. J. Obst. & Gynec. 70:368-382, 1955.

teristic symptoms cause suspicion before metastases develop.

Pregnancy apparently increases the risk of complications and, since the cysts tend to remain low in the pelvis, may cause significant dystocia due to tumor previa.

Treatment is always surgical removal. Both ovaries must be inspected. If the apparently uninvolved side is enlarged, bisection may be necessary. Ovarian tissue is preserved whenever possible.

If rupture has occurred, complete removal of the cyst is desirable. However, no attempt at removal of neighboring granulomatous masses is necessary. If the cyst ruptures during removal, copious lavage of the peritoneal cavity is done.

Treatment of a cyst during pregnancy is dependent on duration of gestation. If the cyst is found during the first trimester with no complications, operative removal is deferred until the fourth month of gravidity. During the fourth to sixth months, surgery is performed at the earliest opportunity. When the teratoma is first detected during or after the sixth month, operation is preferably delayed until term if complications do not exist. At term, an examination determines whether the cyst is in a position to cause dystocia. If so, cesarean section and removal of the cyst are performed. If vaginal delivery is allowed, the cyst is removed during the puerperium.

Obstetric Hazards in Underweight Patients

WINSLOW T. TOMPKINS, M.D., DOROTHY G. WIEHL, M.A., AND ROBERT MC N. MITCHELL, M.D., PENNSYLVANIA HOSPITAL, PHILADELPHIA, report that patients severely underweight at the beginning of pregnancy are more likely to have toxemia and premature labor than other pregnant women.

Incidence of toxemia or toxic symptoms is increased among women 20% or more underweight who do not gain as expected before the third trimester as well as among patients who gain excessively. Occurrence of premature labor among underweight patients is more frequent if the gain in weight is below the average during the first or second trimester and is significantly diminished if a usual or greater rate of gain is established during the second trimester.

Babies of underweight mothers are significantly lighter and shorter than babies of mothers of approximately standard weight at the start of pregnancy. High rate of prenatal weight gain does not increase the size of the baby. Underweight patients often add more to body tissue mass during pregnancy than patients of standard weight, apparently at the sacrifice of the fetus.

The underweight patient as an increased obstetric hazard. *Am. J. Obst. & Gynec.* 69:114-123, 1955.

Anticoagulant Therapy in Geriatrics

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*Anticoagulant drugs are beneficial for some types of thrombosis and embolism but may be hazardous and should be administered only by skilled physicians who are able to provide meticulous care.**

THROMBOSIS and embolism cause disability and death in patients over 50 years of age more frequently than any other disease. Anticoagulants have been used for treatment of most types of intravascular thrombosis and for phlebitis and pulmonary embolism.

Heparin and dicumarol are of great value for pulmonary embolism and thrombophlebitis. Immediate administration of heparin stops propagation and allows contraction of the clot. Subsequent therapy with oral anticoagulants prevents formation of new thrombi. Damage to deep venous valves and development of varicose veins, stasis eczema, edema, and ulcers are also avoided.

Rheumatic valvular heart disease, especially mitral stenosis with auricular fibrillation, is one of the most frequent sources of peripheral emboli. Anticoagulant therapy may greatly reduce pulmonary and systemic complications and has been continued as long as eight years.

Because the course of myocardial

infarction cannot be predicted, all patients should be treated with anticoagulants if no contraindications exist and if the physician is familiar with administration of the drugs. If a patient has survived previous myocardial infarction or if infarction appears to be impending in a patient with severe angina, long-term dicumarol therapy may prevent coronary thrombosis.

Most cerebral vascular accidents are a result of thrombosis or embolism. If diagnosis of embolism or thrombosis is reasonably certain, anticoagulants may be expected to be of benefit. However, anticoagulants should not be given when hemorrhage exists or is suspected. Aids to differential diagnosis are listed in the table.

The objective of anticoagulant therapy for cerebrovascular disease is to maintain the prothrombin time between thirty and thirty-five seconds, especially during the first two or three weeks. If the first of the daily Quick prothrombin determinations is normal—that is, twelve to thirteen seconds—or less, 300 mg. of dicumarol is given orally. Heparin, 10,000 to 15,000 units, is given intravenously every four hours during the first twenty-four to forty-eight hours until the effect of the first dose of dicumarol is manifested.

*The use of anticoagulants in geriatrics. *Geriatrics* 10:299-305, 1955.

**DIFFERENTIAL DIAGNOSIS OF INTRACEREBRAL HEMORRHAGE,
CEREBRAL THROMBOSIS, AND CEREBRAL EMBOLUS**

	<i>Cerebral hemorrhage</i>	<i>Cerebral thrombosis</i>	<i>Cerebral embolus</i>
Onset	Severe headache; frequent nausea and vomiting; coma	Difficulty in speaking and weakness of arm or leg; gradual or sudden onset	Very sudden development of neurologic signs
Convulsions	Occur in 14% of patients at onset	Occur in 7% of patients at onset	May occur
Coma	Favors diagnosis of hemorrhage if persists longer than twenty-four hours	Usually less than twenty-four hours; often none	Not usual unless embolus is large
Incidence	15%	82%	3%*
Age groups	Same as for arteriosclerosis, increasing with each decade over 50	Same as for hemorrhage	Most patients young adults or in early middle age
General physical examination	Arteriosclerosis in retinal or peripheral vessels or other evidence of cardiovascular disease; blood pressure often elevated	Same as for hemorrhage	Rheumatic heart disease with mitral stenosis; bacterial endocarditis; auricular fibrillation from any type of heart disease; recent myocardial infarction; emboli elsewhere
Cheyne-Stokes or labored respiration	Common	Seldom	Rare
Conjugate deviation of eyes	Frequent	Seldom	Rare
Quadriplegia	Rare	Rare except with thrombosis of basilar artery	Rare
Stiff neck	Frequent	Rare	Rare
Bilateral extensor plantar response	Frequent	Rare	Rare
Leukocytosis	More than 50% of patients have over 12,000 leukocytes per cu. mm.; counts over 20,000 common	Uncommon	Uncommon unless embolus is infected
Cerebrospinal fluid	Usually bloody and under increased pressure; bloody fluid diagnostic of hemorrhage into ventricular or subarachnoid space; fluid xanthochromic if hemorrhage old; (rare) clear if hemorrhage is deep in brain tissue or walled off	Fluid usually clear, pressure slightly increased but not above 250 cm. water; slight pleocytosis and increase in protein content may be noted.	Fluid clear or xanthochromic; moderate pleocytosis and increase in protein content may be noted, especially if embolus is septic.

*This figure may be too low, though commonly accepted; recent studies suggest that the figure may be as high as 30%.

Dicumarol is given daily in doses of 200 mg. until the prothrombin time is thirty seconds and then in doses of 25 to 100 mg. until prothrombin time is thirty to thirty-five seconds, depending on the patient's reaction. If thirty-five seconds is exceeded, the drug is stopped until prothrombin time falls below thirty seconds and then cautiously given in daily 25- to 200-mg. doses.

If the prothrombin time reaches sixty or seventy seconds, purpura,

gingival oozing, hematuria, and other signs of hemorrhage may be noted. In such instances, 20 mg. of vitamin K₁ should be given orally. Severe bleeding can usually be controlled with small transfusions of whole fresh blood. After about three weeks, dicumarol dosage is gradually diminished until the patient has resumed usual activities. Prothrombin times of patients on long-term therapy are kept between twenty-two and thirty seconds.

¶ **MYASTHENIA GRAVIS** may be effectively treated with Mysuran chloride, an anticholinesterase that is more potent and longer lasting than neostigmine or Mestinon. However, caution is necessary in administering the drug since gastrointestinal effects are rare and, consequently, overdosage may be difficult to detect. Also, requirements of patients vary considerably; total daily dosage may be as low as 37 mg., or 250 mg. or higher. Robert S. Schwab, M.D., Clare K. Marshall, M.D., and William Timberlake, M.D., of the Massachusetts General Hospital, Boston, report that 41 of 50 patients treated with Mysuran chloride obtained greater relief than with previous medication. Parenteral therapy is not recommended.

J.A.M.A. 158:625-628, 1955.

¶ **TREATMENT OF EPILEPSY** may be facilitated by administration of methylphenylsuccinimide (Milontin). Douglas T. Davidson, Jr., M.D., Cesare Lombroso, M.D., and Charles H. Markham, M.D., of Harvard University, Boston, report that petit mal seizures were reduced by more than half in 40% of 158 patients. Improvement was noted in 36% of patients who had previously been given diones, and in 58% of subjects who had not received previous medication. Convulsions were fewer in 27% of subjects with grand mal seizures when anticonvulsant agents were also administered. Dosage was 0.25 gm. twice a day for infants, 1.5 to 2 gm. a day for children up to 4 years of age, 2 gm. for those aged 4 to 9 years, and 2.5 gm. for patients over the age of 9 years. The dosage was increased by adding 0.5 gm. a day every two weeks until seizures were controlled or toxic symptoms appeared; the daily amount never exceeded 5 gm. Side effects were not serious.

New England J. Med. 253:173-175, 1955.

Traumatic Head Injuries

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*Areas of the brain most likely to be severely damaged by a head injury depend upon whether the wound is open nonpenetrating, open penetrating, or closed.**

AN analysis of 200 head injuries among combat troops was made. The group included 20 open lesions without penetration of the dura, 116 open wounds with dural penetration, and 64 closed injuries consisting of cerebral concussion or contusion without gross injury to the skull or penetration of the dura mater.

With open nonpenetrating injuries, the right parietal, left frontal, left temporal, and left frontotemporal areas are most apt to be damaged severely, while in open penetrating injuries, the right and left parietal, left temporal, left frontal, left occipital, bilateral frontal and occipital, and the multilobar parietal lobe injuries appear to be the most severe. The most severe damage is seen in the right and left parietal, left temporal, bilateral occipital, and multilobular areas in closed injuries.

The most significant symptoms, signs, and laboratory findings indicative of cerebral damage among the patients were the ultimate disposition of the patient, spinal fluid

total protein, duration of unconsciousness after injury, electroencephalographic changes, the degree of brain damage, neurologic findings, and headaches and spells of dizziness.

Headaches and dizzy spells are noted more frequently after closed injuries than after open. Greatest electroencephalographic deviations and the highest incidence of epileptic seizures occur after open penetrating injuries.

With the open nonpenetrating injuries, the most closely related manifestations were degree of brain damage, disposition of the patient, headaches and dizzy spells, spinal fluid proteins, the electroencephalographic findings, and the duration of unconsciousness. Epileptic seizures and aphasia were not closely related to other findings.

The most positive relationships with open penetrating injuries with respect to signs and laboratory tests existed in the duration of unconsciousness, neurologic findings, spinal fluid proteins, disposition, and electroencephalographic alterations. Again epileptic seizures and other findings were not related.

The degree of brain damage, the neurologic findings, electroencephalographic alterations, and mental changes were correlated when the lesion was closed.

*Clinical and laboratory findings in two hundred head injuries. *Neurology* 5:336-352, 1955.

Patient Attitude Toward Hemiplegia

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*Patients recovering from apoplexy may be unaware of, disregard, or personalize paralyzed extremities.**

ANOSOGNOSIA, or inability of a person to recognize a disease or bodily defect, commonly occurs after strokes with transient loss of consciousness and left-sided hemiplegia. Disregard for the severity of illness, disorientation, and incontinence without apparent discomfort may occur. Even recent blindness may be ignored or denied. Some aspects of the disability, such as dysarthria or facial asymmetry, may be mentioned by the patient while the actual paralysis is ignored.

Anosognosia may be caused by disease of the parietal lobe of the minor hemisphere which may dominate corporeal awareness or by associated confusion and nature of previous personality or may simply exist as a quite common and easily recognizable manifestation of cerebral disease in which reality is clouded.

With aphasia, the degree of awareness of the nature, extent, and social implications of the disability is difficult to estimate. Aphasic patients must be closely observed for appraisal of the subjective attitude toward the incapacity. If

aphasia is not severe, anosognosia for a right hemiparesis is frequently seen.

Anosognosia is usually temporary. Duration may depend on both depth and length of postictal confusion and on other persons that call early attention to paralysis. At first, the disability may not be realized or the fact may be denied. The patient may refute ownership or have aphasia only when the affected limbs are discussed.

Much more common and far less abnormal is a slow and progressive realization of paralysis. The patient reluctantly admits that the arm and leg are weak but rationalizes that the disability is a result of an old injury, rheumatism, or sciatica. Another common reaction is for the convalescent patient to finally accept a cerebral origin of the hemiplegia and to treat the paralysis with cheerfulness that is inappropriate.

Occasionally, after a period of delayed awareness, a right-handed patient may insist that the limbs on the right have much greater strength than before the stroke, despite the side of the original palsy. Euphoria and unrestrained conduct are typical.

With anosognosia for prolonged and severe hemiplegia, paralysis is commonly accepted eventually but

*Personification of paralysed limbs in hemiplegics. *Brit. M. J.* 4934:284-286, 1955.

regarded with detached interest as if the limbs were separated from the body. Crippled and useless limbs may be referred to as personalities with individual identities. Nicknames are frequently given. Personalization without concern for the hemiplegia often exists.

Negative reactions include dislike, disgust, and horror. Limbs

may be concealed with bedclothes or avoided by the eyes. The afflicted limb may be regarded as ugly, unnatural, heavy, or having actually changed in color, shape, texture, or viability. Such hypochondriac attitudes border on delusion and may be traced to a premorbid personality aggravated by an acquired cerebral lesion.

Prognosis in Bell's Palsy

D. TAVERNER, M.D., UNIVERSITY OF LEEDS, ENGLAND, believes that electromyographic examination can be used to predict accurately complete functional return with Bell's palsy.

If needle electromyograms demonstrate fibrillation activity of facial muscles, denervation with incomplete return of motor function is expected. However, without fibrillation, complete recovery is predicted. Fibrillation can usually be detected by the seventh day.

A group of 100 patients with Bell's palsy was studied with aid of electromyography. Palsy was considered a result of an enigmatic intrinsic lesion of the seventh cranial nerve producing a sudden, partial to complete, unilateral paralysis of facial muscles without other evidence of central nervous system, ear, or posterior fossa disease.

Approximately one-half of the patients experienced auricular pain or disturbances of taste. Herpetic vesicles of the external auditory canal were not common. Of the group, 45 patients, 3 with total paralysis, had no fibrillation and recovered rapidly and completely within about fifty-one days. Of the 55 patients with fibrillation, 25 with complete paralysis, none recovered completely, although one-third noted approximately 75% return of normal function.

Sequelae developed only in patients with fibrillation and included contracture formation, associated movements, spontaneous twitching, and paroxysmal lacrimation during mastication. Every patient had facial twitching synchronous with blinking or blink-bursts as recorded electromyographically. Associated movements and abnormal lacrimation were considered results of misdirected regenerating axones.

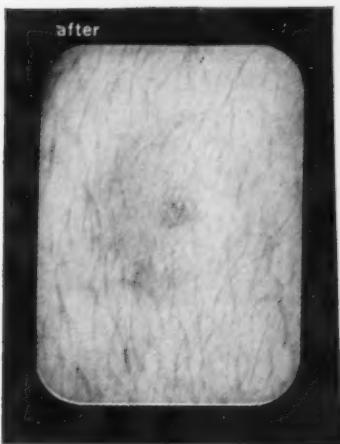
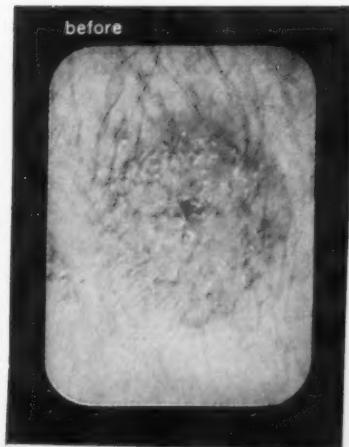
Definitive treatment is not available. Surgical decompression of the facial nerve in the fallopian canal is not justified.

Bell's palsy. *Brain* 78:209-228, 1955.

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and 7 days after
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Complications of Rib Fractures

RICHARD L. RAPPORT, M.D., ROBERT B. ALLEN, M.D., AND

GEORGE J. CURRY, M.D.

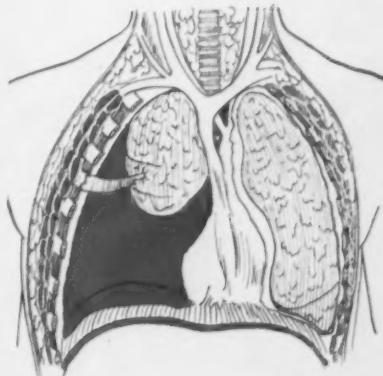
Hurley Hospital, Flint, Mich.

*The fractured rib, often considered trivial, is a potentially serious injury with a significant mortality rate.**

WHETHER compound or simple, a rib fracture deserves careful management because of the proximity of the rib cage to vital structures. Evaluation of patients with severe chest damage is often difficult because of associated craniocerebral or other injuries, but chest findings must not be neglected since thoracic injury contributes directly to the death of about 5% of patients admitted with multiple injuries.

While the rib fractures alone may not be responsible for all the difficulties observed with chest injuries, the finding of thoracic skeletal damage should alert the physician to the possibility of several grave complications. In a survey of an unselected group of patients with rib fractures, significant complications occurred in 28% of 730 patients and in 41% of those requiring hospitalization.

Complications that are associated with rib fractures may involve the chest wall or be pleural, pulmonary, mediastinal, or abdominal in nature. Multiple rib fractures associated with a stove-in chest wall



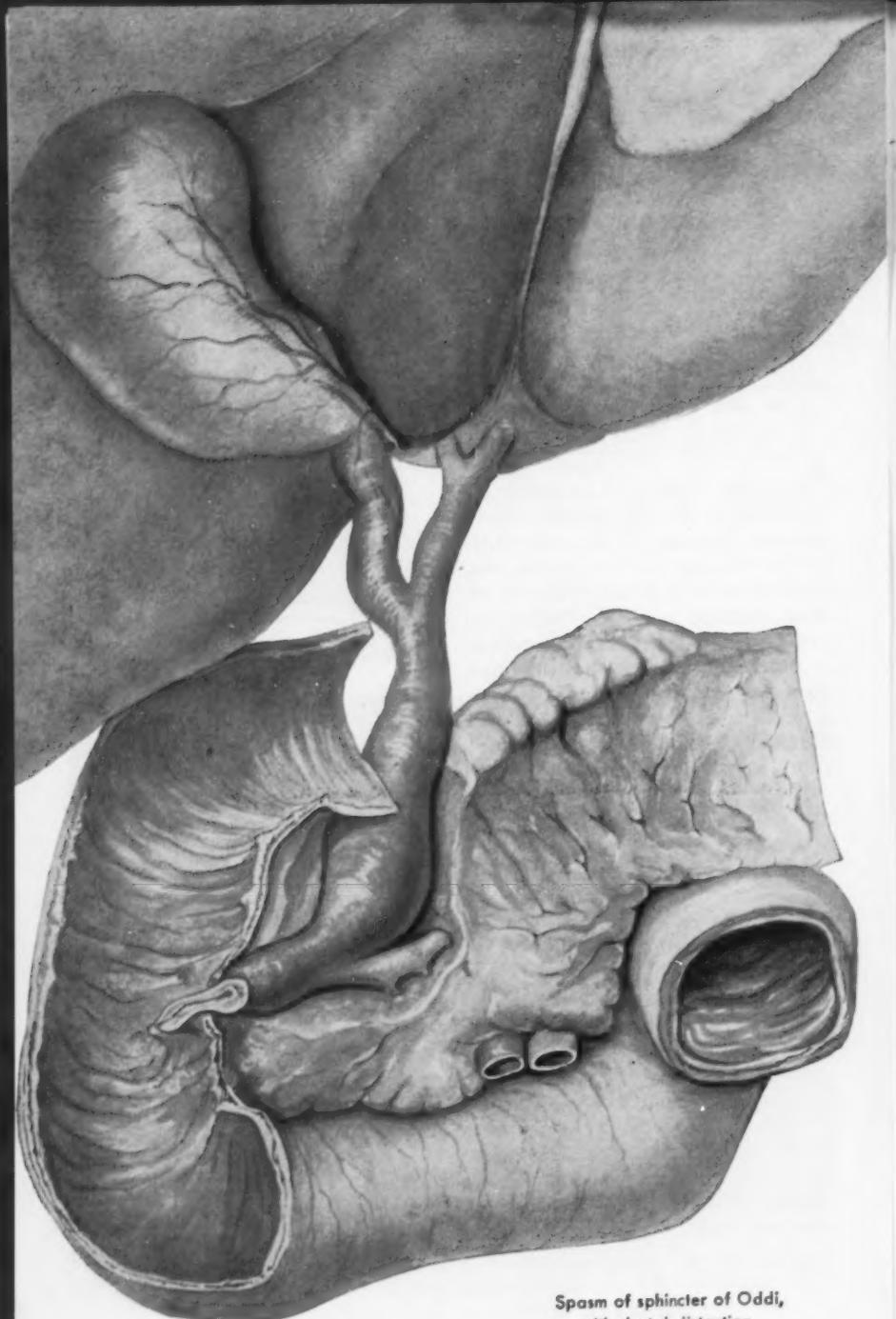
Damage to pleural surfaces from fractured rib

produce the most serious complications. Inspiratory effort actually causes a decrease in intrathoracic volume because of the paradoxical inward motion of the damaged segment. Positioning, strapping, and sandbagging may suffice as emergency treatment but skeletal traction or internal fixation is often required. Tracheotomy may also be done to decrease dead air space. Subcutaneous emphysema, the most common chest wall complication, may be alarming, but when the airway is not compromised no specific therapy is necessary.

The pleural surfaces are frequently damaged with rib fractures, leading to hemothorax, pneumo-

(Continued on page 164)

*The fractured rib—a significant injury. Arch. Surg. 71:7-13, 1955.



Spasm of sphincter of Oddi,
with ductal distention.

KETOCHOL® IN BILIARY STASIS

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Ketochol is well tolerated. The average dose is one tablet three times a day with meals, together with a suitable diet.

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Pavatrine® with Phenobarbital for selective control of smooth muscle spasm and for mild sedation of the nervous, tense patient is an excellent adjuvant in the management of biliary disorders. The average dose is one or two tablets three or four times daily, as needed.

Pavatrine with Phenobarbital contains 125 mg. (2 grains) of Pavatrine and 15 mg. (¼ grain) of phenobarbital per tablet. G. D. Searle & Co., Research in the Service of Medicine.

1. Irvin, J. L.: The Secretion and Enterohepatic Circulation of Bile Acids: Replacement of Bile Acids in Biliary Insufficiency, North Carolina M. J. 13:206 (April) 1952.

SEARLE

thorax, pleurisy with effusions, and chylothorax (see illustration). Intrathoracic bleeding may arise from the superficial pulmonary, intercostal, internal mammary, or great mediastinal vessels.

Early and frequent thoracentesis without air replacement helps to prevent clotting, infections, and diminished pulmonary reserve. Thoracotomy is required if [1] bleeding persists; [2] the initial hemorrhage covers more than one-third of the lung; or [3] loculation prevents adequate thoracentesis. Enzymatic debridement is painful and does not produce satisfactory clearing of the clot. If fibrothorax occurs, decortication can be done between the third and fourth weeks.

Pneumothorax, when accompanied by a sucking chest wound, demands immediate attention. Closure of the wound is accomplished with pressure dressings. If the pneumothorax produces more than 25% lung collapse, the air should be removed by means of closed catheter drainage. The tear in the pleura heals most rapidly when parietal

and visceral surfaces are apposed.

Direct pulmonary complications with rib fractures arise largely because of pain. The patient is unable to cough, secretions accumulate, and a traumatic wet lung occurs with atelectasis or pneumonia. These complications are avoided by early intercostal nerve block or catheter or bronchoscopic aspiration. Adhesive strapping and the administration of opiates are inadvisable. Tracheotomy facilitates removal of secretions. If lung abscess forms and does not respond to the usual medical management, thoracotomy is recommended.

Abdominal conditions may also arise directly as a result of rib fractures. The liver, kidneys, spleen, or diaphragm may be lacerated, and ileus has been noted. The diagnosis of associated abdominal injuries is often difficult, and the true extent of the damage may be revealed only after repeated examinations. Intercostal nerve block often eliminates chest pain referred to the abdomen. Treatment varies according to the nature of the injury.

THE SO-CALLED CAST SYNDROME, in which acute gastric dilatation, pernicious vomiting, and severe electrolyte imbalance occur, may result when a patient is placed in a body cast. W. W. Waddell, Jr., M.D., and associates of the University of Virginia, Charlottesville, report that the condition was effectively treated in a 12-year-old girl despite almost complete atony of the gastrointestinal tract and a degree of blood-chloride depletion that is usually considered fatal. Improvement was noted soon after exploratory operation during which the ligament of Treitz was divided and air entered the bowel. Because of hypokalemic acidosis, potassium chloride as well as sodium chloride were administered. Intravenous dextrose was also given.

J. Bone & Joint Surg. 37-A:597-601, 1955.



Gastric Hyperacidity: etiology

People being people, environmental factors contributory to gastric hyperacidity are hard to remove, even when their role is clearly defined. But, the physician has a sure, simple—even pleasant—way of relieving the acid distress caused by:

- dietary indiscretion
- nervous tension
- emotional stress
- food intolerances
- excessive smoking
- alcoholic beverages

Gelusil promptly and effectively controls the excessive gastric acidity of "heartburn" and chronic indigestion. And it affords equally rapid relief in peptic ulcer. Sustained action is assured by combining magnesium trisilicate with the specially prepared aluminum hydroxide gel.

Free from constipation: Gelusil's aluminum hydroxide component is specially prepared: the concentration of aluminum ions is accordingly low; hence the formation of astringent—and constipating—aluminum chloride is minimal.

Free from acid rebound: Unlike soluble alkalies, Gelusil does not over-neutralize or alkalinize. It maintains the gastric pH in a mildly acid range—that of maximum physiologic functioning.

Dosage—2 tablets or 2 teaspoonfuls two hours after eating or when symptoms are pronounced. Each tablet or teaspoonful provides: $7\frac{1}{2}$ gr. magnesium trisilicate and 4 gr. aluminum hydroxide gel.

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Carpometacarpal Thumb Joint Dislocation

MICHAEL BURMAN, M.D.

Hospital for Joint Diseases, New York City

*Trauma, occupation, paralysis, or operation may cause dislocation of the carpometacarpal joint of the thumb.**

FORCE mechanisms of 3 types may displace the carpometacarpal thumb joint.

- A sudden forced movement in abduction-extension of the thumb causes volar dislocation or subluxation. Conversely, the dorsum is displaced by a movement in opposition, sustained, repeated, or sudden as by a blow with the clenched fist.
- The metacarpal bone as a whole is thrust forward or backward.
- The joint may be released by total capsulotomy.

The bony block to volar subluxation is the distal and ulnar beak of the greater multangular bone. The bony block to dorsal dislocation is the volar hook of the base of the first metacarpal bone.

The articular surface of the greater multangular bone is convex from the front to the back and concave from side to side. The first metacarpal bone has an articular surface convex from side to side and concave from front to back. Therefore, the bones form a saddle and rider.

*Luxation or subluxation of the carpometacarpal joint of the thumb. J. Internat. Coll. Surgeons 24:45-63, 1955.

Abduction and adduction take place on the concavity of the greater multangular bone. The lesser radius of curvature of the articular convexity of the first metacarpal bone assures joint contact with the concave surface of the greater multangular bone without deformation of joint cartilage or opening of the joint space. Conversely, the rotary movement of opposition, with magnitude of 30°, is favored by the smaller radius of curvature of the convexity of the greater multangular bone.

Operation should be done if pain is continuous or the grip is weak. The volar side of the joint is exposed by stripping the thenar muscles volarly and ulnarily from the carpus and the first metacarpal bone. Tendons are stripped from the dorsal aspect of the joint; the dorsal digital nerves must not be cut.

The type of operation depends on the form of dislocation. The following procedures may be employed:

- Plication of the redundant capsule
- Reinforcement of the capsule by fascia or free tendon graft passed through drill holes in the component bones of the joint or through the base of the first metacarpal bone

in pediatrics and
in pregnancy

try

... a logical approach to functional nausea and vomiting... try non-hypnotic, non-narcotic **EMETROL** first, before resorting to potent drugs with undesirable side effects. "A safe and physiologic agent,"¹ proved highly effective in children² and pregnant women.¹ **EMETROL** "is free of annoying side effects... neither stimulates nor depresses... and is relatively inexpensive."¹

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for nausea
and vomiting

An oral phosphated carbohydrate solution (optimally adjusted pH).

IMPORTANT: Do not dilute. Avoid all other fluids while taking **EMETROL**.

Average dosage: Children, 1 teaspoonful every 15 minutes. If dose is not retained, repeat every 5 minutes. Early pregnancy, 1 or 2 tablespoonfuls on arising, repeated every 3 hours or whenever nausea threatens.

Supplied: Bottles of 3 fl.oz. and 16 fl.oz. through all pharmacies.

1. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. 65:311, 1953.

2. Bradley, J. E., et al.: J. Pediat. 38:41, 1951.

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- Tenodesis, done by threading a piece of the tendon of the palmaris longus through oblique drill holes in each bone of the joint
- Transplantation of a tendon to pull in a direction opposite the direction of dislocation
- Fusion of the joint
- Excision of the greater multangular bone.

The most successful repair is by lacing the joint with tendon or fascia. When the lacing method fails, mechanical and roentgenographic analysis indicates change in the shape of the greater multangular

bone, so that the saddle point of the rider bone is no longer congruent with the saddle point of the saddle bone.

Frictional arthritis is thus the dominant sequel of occupational subluxation, for the saddle point is the center of rotation of the carpo-metacarpal joint of the thumb. In this event or in instances of volar fixation in adduction of the greater multangular bone in fixed adduction contracture of the thumb, excision of the greater multangular bone is advised rather than fusion of the joint.

¶ NOCTURNAL ENURESIS may occur at any level of somnolence, but automatic micturition during deep sleep usually occurs only during the early years of childhood. In adults, the condition is most frequently a dissociative reaction during physiologic wakefulness. Most of the subjects are poorly educated, are of rural and large-family origin, and have immature and passive-aggressive personalities. Keith S. Ditman, M.D., and Kenneth A. Blinn, M.D., of Beverly Hills believe that psychotherapy is advisable for these patients, as drugs give only symptomatic relief. Electroencephalographic examination during sleep can determine the stage at which enuresis occurs.

Am. J. Psychiat. 3:913-920, 1955.

¶ TREATMENT OF SCHIZOPHRENIA by induction of insulin coma induced improvement or remission in 67.7% of 780 individuals observed from 1936 to 1951. Franklin H. West, M.D., and associates of Pennsylvania Hospital, Philadelphia, believe that restoration to health is not accompanied by permanent correction of the factors predisposing to regression. Relapses occurred in 334 of the patients, within thirty days in 44% and within a year in 78%. However, a second course of therapy was effective in 52% of 122 of these persons. The prognosis is most favorable in persons over 16 years of age who have been ill less than six months with paranoid, catatonic, or undifferentiated schizophrenia and who are given at least thirty to sixty hours of coma treatment.

Am. J. Psychiat. 3:583-589, 1955.

The organisms commonly involved in

Pyelitis



E. coli (8,000 X)



Aerobacter aerogenes (12,500 X)



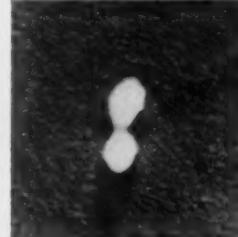
Salmonella paratyphi A (8,000 X)



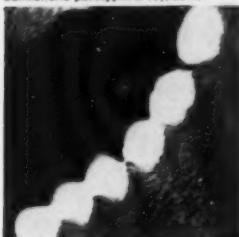
Salmonella paratyphi B (6,500 X)



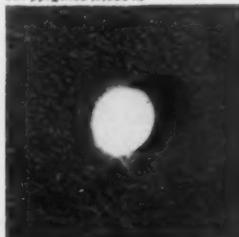
Str. pyogenes (8,500 X)



Str. faecalis (10,000 X)



Str. viridans (9,000 X)



Staph. aureus (9,000 X)

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Transference in Psychotherapy

PAUL LOWINGER, M.D., AND PAUL E. HUSTON, M.D.

State University of Iowa, Iowa City

*A transference relationship between the patient and psychotherapist can exist through verbal communication only.**

CONSCIOUS and unconscious, repetitive, emotional reactions of varying complexity on the part of the patient toward the physician in the therapeutic situation are known as transference.

Such reactions may actually represent disguised needs and are the result of all the earlier and current emotional response patterns of the patient as well as of the realities of the therapeutic situation. Transference is clearly demonstrated when the real figure of the physician is replaced by one or more earlier significant figures in the patient's life.

In an experimental study of transference, the variable of the physical presence was removed. The patient was observed with the use of 2 adjacent soundproof rooms connected by a two-way sound system and a one-way mirror-window. Psychotherapy was given only by verbal communication, with the physician and patient separated in the adjacent rooms.

Of 10 individuals with neurotic problems who were treated with

this technic, 2 had remissions of symptoms, 4 were improved, and 4 were unchanged.

Under such experimental circumstances, a transference relationship can develop, demonstrating that the relationship is not dependent on the nonverbal aspects of the behavior and attributes of the psychotherapist. The transference relationship is less emotionally or affectively intense than the relationship that develops when the physician and patient are together in the same room.

Dilution of transference reaction may be of distinct advantage in brief dynamic psychotherapy, since the more intense reactions formed by the patient when the physician is present may form barriers to the progress of treatment. In addition, separation of the physician and patient enables the physician to better understand the phenomenon of countertransference by increasing the physician's awareness of his behavior in the therapeutic situation. The therapist's feelings of anxiety, fear, hostility, and so on need not be disguised. Without the direct observation of the patient, the physician is free to become aware of and express various emotions, such as boredom or exasperation, by motor behavior in the room.

*Transference and the physical presence of the physician. *J. Nerv. & Ment. Dis.* 121:250-256, 1955.

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(as Sodium Ascorbate)
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↑ the essential amino acid which improves protein quality

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Principles of Electroshock Therapy

E. H. PARSONS, M.D., AND J. U. KEATING, M.D.

Washington University, St. Louis

S. R. BANET, M.D., AND G. H. LAWRENCE, M.D.

St. Louis University

*Familiarity with objectives of therapy and knowledge of the neurophysiologic processes affected are essential to the successful application of electroshock technics.**

SINCE being introduced sixteen years ago, electroshock therapy has been widely accepted, particularly for mental diseases with significant affective components. Though electroshock was used somewhat indiscriminately at first, familiarity with the procedure has produced principles to guide the selection of patients for therapy and the specific applications to use.

When considering electroshock, the psychiatrist should bear in mind the concept that stimulation of the motor strip of the cortex is not related to neurophysiologic dysfunction or to the psychiatric disease. The ego of the patient should not be disturbed by organic brain trauma caused by the treatment. Physical complications such as fractures arising from stimulation of the motor cortex should be prevented whenever possible.

To avoid the brain damage and the physical complications associated with electrically induced major

convulsions, the physician may apply subconvulsive stimulation to the motor strip. This technic, although without complications, has no therapeutic value.

Inhibiting drugs such as the barbiturates reduce the number of fractures but cannot be entirely justified because these agents add toxic insult to the hypoxic post-convulsive brain.

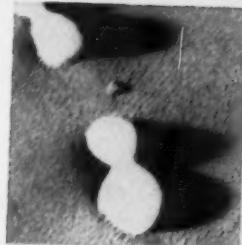
Striated muscle paralytic agents, like curare, require skilled consultants to help meet threatened respiratory crises. Requirements of personnel and equipment are greatly increased and the method merely substitutes a respiratory complication for the orthopedic.

Unidirectional modifiable current permits the therapist to give current intensities and durations appropriate to the specific needs of the patient. Because slight current is initially painful, the patient is best started with intravenous Sodium Pentothal. Therapeutic effect of this current is limited unless the time of application is considerably prolonged. Tonic rather than clonic muscular contractions are produced with sharp reduction in the incidence of fractures.

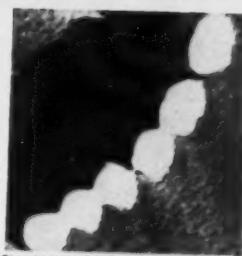
Under special circumstances, the

*Modern methods of electroshock therapy. Am. J. Psychiat. 112:18-22, 1955.

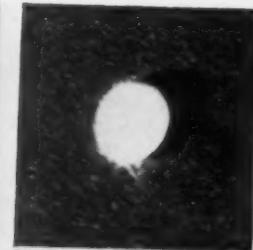
The organisms commonly involved in
Bronchiectasis



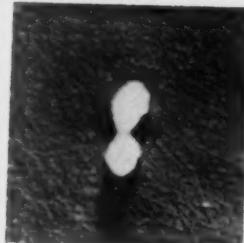
Str. pyogenes (8,500 X)



Str. viridans (9,000 X)



Staph. aureus (9,000 X)



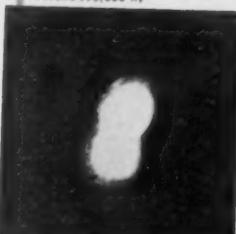
Str. faecalis (10,000 X)



E. coli (8,000 X)



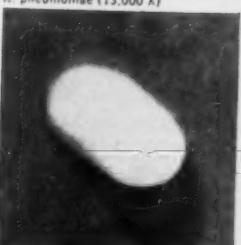
K. pneumoniae (13,000 X)



D. pneumoniae (10,000 X)



H. influenzae (16,000 X)



Aerobacter aerogenes (12,500 X)

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placement of the electrodes may be varied. For example, if electrodes are applied to one side of the head, only the muscles of the contralateral side of the body will contract. Elderly and osteoporotic patients may be treated with the reduced risk that halving the strength of the muscular contractions provides.

In order to increase the area of brain exposed to the current, 4 or even 8 electrodes may be employed. This application permits therapeutic stimulation without using high current in any small part of the brain, and the risk of heat and other traumatizing conditions is thereby reduced.

Value of Subcoma Insulin Therapy

DONALD C. GREAVES, M.D., PETER F. REGAN III, M.D., AND MAJ. LOUIS J. WEST, M.C., U.S.A.F., CORNELL UNIVERSITY AND THE NEW HOSPITAL, NEW YORK CITY, believe that subcoma insulin therapy affords symptomatic relief and may be a helpful adjunct to psychotherapeutic methods used for patients with schizophrenia or affective psychosis.

Schizophrenic and manic-depressive patients with severe anxiety are most frequently selected for treatment. Psychotherapy is considered a primary technic which insulin may facilitate. The objective is to produce deep stupor. A patient in the pre-coma state still responds but only to strong stimuli.

Insulin is given in increasing doses up to a total of 20 to 200 units, depending on the reaction. First lassitude, somnolence, sweating, salivation, hunger, thirst, and hypotonia are manifest. Clouding of consciousness, impaired alertness, confusion, perceptual distortions, slurred speech, deep somnolence, and diminished response to stimuli are noted within two hours. Finally, in the phase before coma, only slight effect of strong stimuli is noted. The pre-coma phase is maintained for forty-five to sixty minutes and is stopped by gavage or, if the patient cannot drink, intravenous glucose. Treatment is terminated when coma is reached or when irregularities of pulse or blood pressure, respiratory difficulty, or grand mal seizures appear. Phenobarbital may control recurrent seizures. Usually 50 to 60 treatments are given.

Effects are measured by relief of symptoms and not by eventual outcome. The basic disease is not altered, and treatment is not specific for schizophrenia or affective illness. However, patients are better able to adjust to social requirements of the hospital and are more amenable to psychotherapy. Previously stable personalities with illnesses of acute onset and short duration have the most favorable prognosis.

An evaluation of subcoma insulin therapy. *Am. J. Psychiat.* 112:135-139, 1955.

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REFERENCE: 1. Kirwin, T. J., Lowsley, O. S., and Menning, J., Am. J. Surg. 62:330-335, December 1943.

The Human Element in Accidents

KENNETH E. APPEL, M.D., AND ALBERT E. SCHEFLEN, M.D.

University of Pennsylvania, Philadelphia

*In many persons without apparent mental illness or severe neurotic disturbance, an accident is a symptom of emotional upset or disharmony within their environment.**

DEFECTS such as impairment of sensation, particularly of eyes and ears, mental deficiency, and slow reaction time can cause accidents. Also dangerous are such somatic illnesses as arteriosclerosis, cardiac arrhythmia, diabetes, and febrile states likely to impair cerebral circulation. Persons with epilepsy or arteriosclerotic brain changes may be unsafe drivers. Warning should be given to a patient treated with drugs such as Benadryl.

Most accidents cannot be blamed on defects or drugs, however, but rather on the emotions of accident-prone individuals. Even accidents ascribed to driving while overtired, intoxicated, or under the influence of drugs usually involve psychologic factors.

Accident-prone individuals are usually normal in intelligence, coordination, and reaction time but possess distinguishing personality traits. Born to a family with frequent accidents, many divorces, one strict parent, or few children, an accident-prone person in childhood often breaks rules and sleepwalks.

As an adult, the individual makes snap decisions, appears casual about feelings, uses stimulants, likes contact sports and machinery, has an exaggerated interest in personal appearance and health, likes to take a chance, keeps on the move, and is in conflict with authority. In education, the tendency is not to finish a given course; work records are unstable. Such people have difficulty in concentrating and are frustrated and irresponsible. An accident may be precipitated by a specific worry related to an authoritarian figure.

Prophylaxis can sometimes be achieved if a physician looks for the condition in all patients. At times an accident can even be predicted or prevented. Patients should be warned of dangerous periods and helped to express anger in ways other than by accidents.

Once an accident happens, the patient feels guilt for a time, then tends to swing to the opposite extreme and protest innocence. When examining a patient involved in an accident, a physician should listen carefully with a view to detecting accident-proneness and preventing future mishaps. Often, the victim will recite a list of previous accidents.

When psychotherapy is required, the physician is hampered by the

*The human element in accidents. *Delaware M. J.* 27:115-122, 1955.

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patient's lack of introspection and conflict with authority. The physician is apt to become an authoritarian figure whom the patient resents. Tact is the only method of winning cooperation. When many psychologic elements appear, the

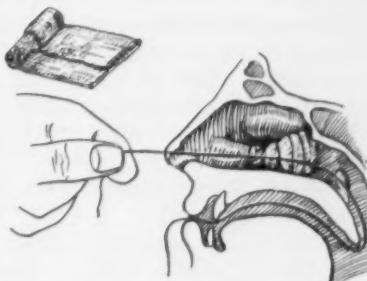
patient can be asked whether the factors might not be related to the present accident. Accident-proneness may be described with the hope that the patient will recognize the symptoms. Some persons should be referred to a psychiatrist.

Technic of Postnasal Packing

ARTHUR J. KUHN, M.D., AND O. ERIC HALLBERG, M.D., MAYO CLINIC AND FOUNDATION, ROCHESTER, MINN., recommend a cone-shaped postnasal pack for the control of epistaxis, since ordinary packs often cause laceration of the soft palate, hemotympanum, and edema of the larynx and pharynx.

A cone-shaped pack is inserted so that the apex is permitted to enter the choana; the base of the cone then obstructs the choana only and the nasopharynx is not obstructed. Unilateral nasal breathing is thus still possible.

The pack is made with a strip of gauze, $2\frac{1}{2}$ to 3 in. wide, that is folded lengthwise an inch from one edge and rolled tightly until the larger end measures $\frac{3}{4}$ in. in diameter. The rolled gauze is then tied around the middle and at both ends, and two loops of string are left attached to the apex and one loop to the base of the pack. When the pack is to be inserted, a well-lubricated catheter is inserted on the bleeding side of the nose and into the nasopharynx. The two loops of string attached to the apex of the cone are tied to the catheter and the catheter is withdrawn, thus bringing the two loops of string through the nose (see illustration). The pack is then lubricated with petroleum jelly and, as traction is applied to the string passed through the nose, the pack is guided into the choana with the index finger in the pharynx. The pack is held in place by tying the two strings passed through the nares over a dental roll. The string tied to the base of the cone is brought out through the mouth and taped to the skin. This string should be lax. The pack may be left in place for seven days.



Method of inserting pack

Complications of postnasal packing for epistaxis. *Arch. Otolaryng.* 62:62-65, 1955.

Significance of the L.E. Phenomenon

RICHARD S. WEISS, M.D., AND SHELDON SWIFT, M.B.

Washington University and Barnes and Barnard Free Skin and Cancer hospitals, St. Louis

*Clumping, rosettes, and the typical L.E. cells are considered conclusive evidence of systemic lupus erythematosus.**

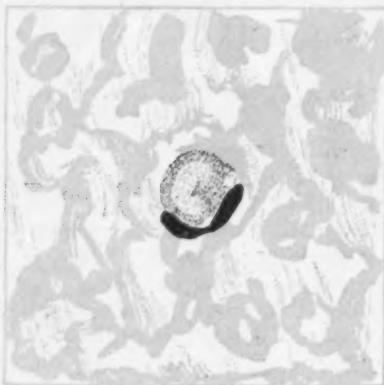
THE L.E. cell may be identified by clotting the suspect blood two hours at room temperature and passing through a fine wire sieve. Buffy coat from this is then smeared and stained. If mixing of constituents from 2 bloods is avoided, the L.E. phenomenon is enhanced.

The tart cell, a histiocyte which has engulfed a dead or damaged white cell, is not specific for L.E. The damaged cell is usually a lymphocyte retaining some of its nuclear outline and chromatin pat-

tern. The inclusion body of the true L.E. cell, on the other hand, is homogeneous and smoky, without nuclear structure.

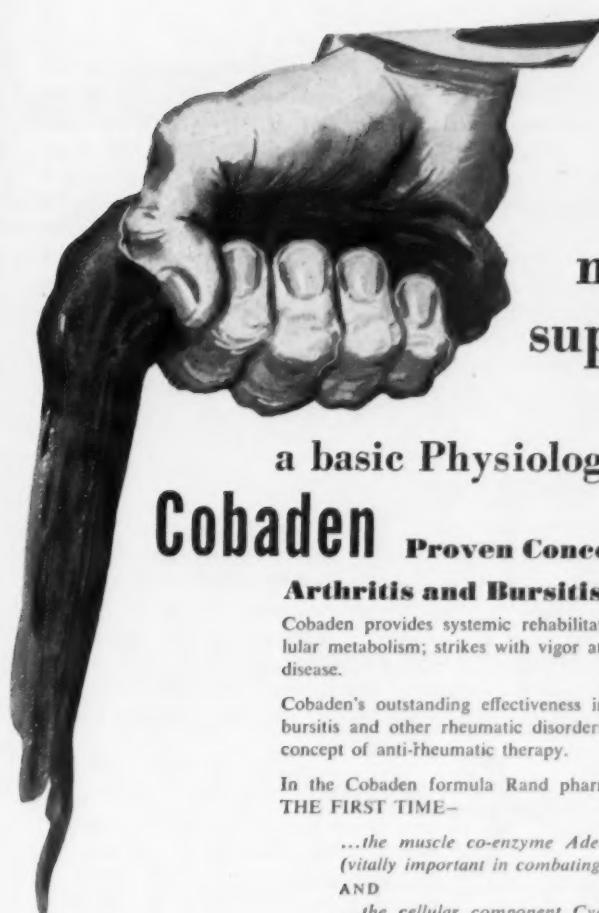
Advanced tart cells, with clear-cut outlines of the ingested body but no chromatin pattern, are seen only in patients with signs of lupus erythematosus (see illustration) and may represent precursors of L.E. cells and should arouse suspicion. The mechanism of production may be explained as follows: In the normal L.E. cell, hematoxylin bodies are formed when a cell lysed by L.E. factor swells, ruptures, and extrudes nuclear fragments. These fragments may be chemotactic or may attract phagocytic cells and become engulfed, forming L.E. cells. However, if the swelling is not great enough to cause rupture, the entire cell may be phagocytosed, and digestion would render the lysed cell homogeneous. These cells are seen only with lupus erythematosus, rheumatoid arthritis, and hydralazine disease, and should provoke search for true L.E. cells.

Lupus erythematosus may be a hypersensitivity phenomenon. L.E. cells have been reported with severe, longstanding penicillin reactions but evidence is thus far inconclusive. In a recent group of patients with penicillin hypersensi-



Fully developed L.E. cell

*The significance of a positive L.E. phenomenon. Arch. Dermat. 72:103-112, 1955.



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¹DeLucia and Strosberg, "Tendinitis and Various Joint Involvements," Med. Times 82:47 (Jan.), 1964.

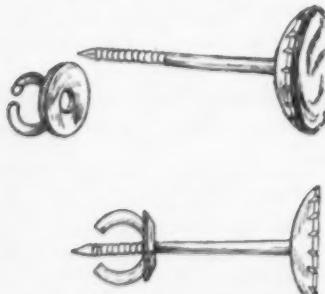
tivity, manifestations ranged from slight urticaria to severe arthralgia with eruptions of the erythema multiforme type, but no signs of the L.E. phenomenon were found in blood smears. Periarteritis nodosa, a disease apparently intimately related to lupus erythematosus, has occurred after penicillin administration and L.E. cells have been found in histologically proved cases.

The L.E. phenomenon has been produced by hydralazine (Apreso-

line) when used for the treatment of hypertension. The syndrome usually begins with arthralgia. The patient has slight fever, the sedimentation rate is elevated, and signs of liver and kidney damage are noted. Skin lesions resembling those of lupus erythematosus finally erupt, and the L.E. cell inclusion phenomenon is sometimes noted. The syndrome is reversible by stopping the drug, though L.E. cells may persist for several months.

Technic for Piercing Ears

ADOLPH M. BROWN, M.D., BEVERLY HILLS, CALIF., uses specially designed earrings for piercing lobes without anesthesia. Each earring has a straight shaft which is slightly larger in diameter than that of an ordinary earring. About two-thirds of the shaft is smooth, and the end third is threaded to receive a guard. The end of the shaft is ground and sharpened to a triangular point. The head is concave to facilitate the thrust of the thumb for insertion. The disk edge of the head is ornamentally milled for easy grasping (see illustration).



Specially designed earring
usually no blood appears. The earring guard is then screwed on at the threaded end of the earring shaft.

The patient wears the earrings continuously and applies alcohol daily to the front and back of each lobe. After several weeks, the special earrings are withdrawn by the physician, and the patient's own ornaments are inserted.

A technique for piercing ears for earrings. California Med. 83:34, 1955.

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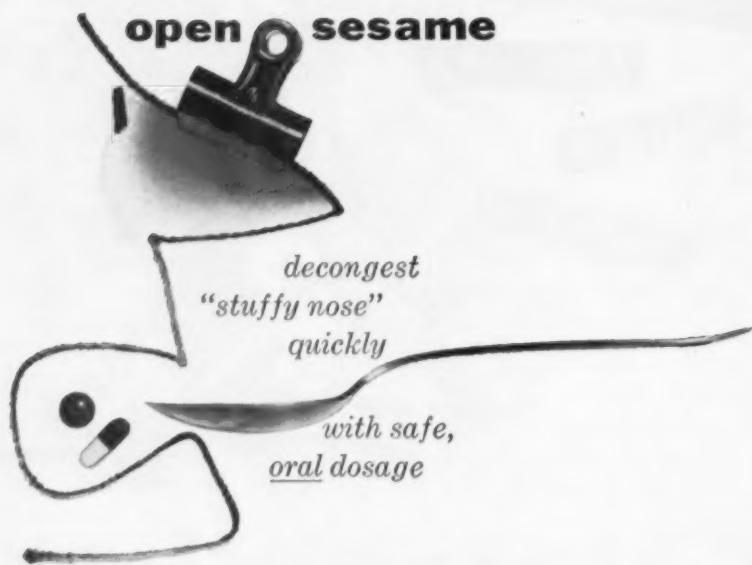
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1. Eisfelder, H.W., *Am. Pract. & Dig. Treat.*, 5, 778 (Oct.) 1954. 2. Sebrell, W.H., Jr.; *J.A.M.A.*, 152:42 (May) 1953. 3. Sherman, R.J., *Medical Times*, 82, 107 (Feb.) 1954.

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The Dry Skin Problem

NORMAN TOBIAS, M.D.
St. Louis

*Multiple external and internal factors are involved in the etiology of xerosis, or acquired dryness of the skin.**

ANY condition interfering with the physiologic secretion of sebum will cause xerosis. Dryness of the skin is most common during the winter because of low relative humidity and inferior superficial circulation associated with vasoconstriction from the cold. Other causes include too frequent hot baths, alcohol rub-downs, excessive contact with alkaline soaps and detergents, alkaline municipal water, and astringent cosmetics.

Housewives are prone to the condition because of frequent immersion of hands in water and detergents. Hospital patients often have xerosis of elbows and knees as a result of friction from starched bed linen. Dryness may also occur secondary to therapeutic measures such as x-ray and astringent lotions. Industrial causes usually involving the hands include use of defatting and degreasing agents such as benzene or carbon tetrachloride. Xerosis in the senile person may be associated with pruritus and is the result of atrophy of the sweat and sebaceous glands, poor circulation, and thinning of the epidermis.

Xerosis is frequent in the dry type of atopic eczema.

Dryness of the skin varies in degree from a slight, uncomfortable sensation to roughness and harshness. The skin may exhibit fine scaling, lack of elasticity, exaggeration of the normal folds, numerous fine lines, and even superficial fissures. Excessive scaling occurs with dry scalp. With involvement of the nails or finger tips, hangnails are common and superficial fissures in the subungual areas are frequently seen.

In generalized xeroderma, a congenital subichthyotic condition, diagnostic signs are: [1] generalized dry, rough, slightly scaly skin, [2] thickening of the palms with exaggeration of the creases, [3] roughness, dryness, and slight scaling and discoloration of the elbow and knee caps, [4] rough gooseshin appearance of the extensor surfaces of the upper arms, and [5] polygonal scaling over the tibias.

The differential diagnosis includes keratosis pilaris, ichthyosis, hypothyroidism, and vitamin A deficiency.

The dry skin is subject to numerous complications such as localized neurodermatitis, nummular eczema, and eczematization. Harmful effects may include susceptibility to irritants and chemicals,

*The dry skin problem. Missouri Med. 52:618-621, 1955.

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liability to bacterial infection, and a tendency to sunburn easily.

Patients with extremely dry skin or with atopic eczema should limit bathing to sponge baths. An oily lotion such as light mineral oil, Lotocreme, Lubriderm, or liquid Nivea may be employed after bathing. A small amount of Nivea in the bath water may help prevent xerosis. Turkish baths are recommended during cold weather for patients who have the congenital form of dry skin.

Local therapy for fissures in the palms or heels consists of 2% salicylic acid in diachylon ointment.

Dry brittle nails are relieved by applications of castor oil. Protective applications of oils, lotions, and ointments act as emollients and exclude air and prevent water evaporation from the skin. A satisfactory preparation is 10% olive oil, 70% lanolin, and Aquaphor. Chapping of the hands may be treated with toilet lanolin or Olive Jel applied nightly and wearing of cotton gloves.

Internal treatment of dry skin should include thyroid extract, vitamin A, and hormones when such substances are specifically indicated.

Influence of Age on Skin Reactivity

LOUIS TUFT, M.D., V. MURIEL HECK, M.T., AND DONALD C. GREGORY, TEMPLE UNIVERSITY, PHILADELPHIA, note diminishing response to skin tests with advancing age, especially after 50 or 60 years. Therefore, a negative result with standard dilution may indicate depressed reactivity in general rather than lack of sensitization to a specific allergen. Tests with the next stronger solution might be positive.

Cutaneous power to respond may be demonstrated with histamine. Capacity is apparently normal if a 1:100,000 dilution has slight effect and a 1:10,000 concentration slight to moderate reaction. Reactivity is probably low if results are negative with the weaker solution and doubtful or only slightly positive with the stronger solution.

Several thousand tests were done on sensitized and healthy subjects of all ages from the first to eighth decade. Both common and uncommon food allergens were employed for patients known to be susceptible. Nonallergic patients had usual intracutaneous histamine tests with 0.02 cc. of 4 concentrations ranging from 1:1,000 to 1:1,000,000.

On the whole, results were similar. However, with allergy, the number of positive reactions fell sharply after the age of 50. Response of nonallergic subjects to histamine did not decrease greatly until after 60 years of age.

Studies in sensitization as applied to skin test reactions. *J. Allergy* 26:359-366, 1955.



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new because—

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Chelated iron...better tolerance...iron is not suddenly imposed on the duodenum and upper jejunum... hence, no irritation...**better uptake**...iron is available over an extended area of the gastrointestinal tract.

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Physical Therapy for Severe Burns

CHARLES S. WISE, M.D., GORDON S. LETTERMAN, M.D., MAXINE SCHURTER, M.D., AND JESSIE E. FAIR, R.P.T.

George Washington University, Washington, D. C.

*Patients with severe burns can be totally rehabilitated only if physical therapeutic methods are closely integrated with plastic reconstructive surgery.**

SINCE an increasing number of persons with third degree burns survive, a therapeutic program must be formulated so that patients can resume social activity and employment without physical handicap or embarrassment. Failure to utilize physical therapy effectively may result in prolonged hospitalization or permanent disability.

When emergency procedures are employed, the ultimate end of total rehabilitation, as well as the immediate lifesaving objective, should be considered. A poorly done tracheotomy may unnecessarily complicate the design and transplantation of a cervical flap at a later date for facial reconstruction. A disfiguring and disabling neck contracture caused by a healed vertical tracheotomy scar necessitates a Z-plasty procedure combined with active and passive stretching.

Indiscriminate clamping and ligation of cervical vessels produces irreversible brain and tissue damage. Inadequate fluid therapy dur-

ing shock may cause tissue necrosis and disability of an extremity and destroy skin needed for grafting.

Open surgical drainage is a fundamental principle in the local management of the burned surface. Application of dressings and positioning of the patient treated either by the open or closed method must be done with great care to avoid foot and wrist drop and other joint disabilities.

Daily physical medical procedures should be initiated as soon as practicable after the emergency period. Hospitalization is shortened and operative results are better if a rehabilitation regime is initiated before surgery is done. Whenever possible, bed exercises, complex self-care activities, and ambulation are prescribed before skin grafting.

The Hubbard tub or a whirlpool bath, with agitators, may be used as an adjunct and often as a substitute for surgical debridement. The temperature of the water is important and is best tolerated at slightly below skin temperature, gradually being increased to tolerance. Spiking of temperature after hydrotherapy may be noted.

Active motion with assistance can gradually be increased within limits of pain until the greatest

*Physical therapeutic aspects in the treatment of third degree burns. *Arch. Phys. Med.* 36:212-216, 1955.

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possible active range is reached. The patient's temperature curve is used to regulate frequency of treatment.

Active range of motion exercises are resumed early in the interim between multiple operations. Passive or active stretching exercises are instituted in areas where granulating tissue causes limitation of joint range.

In the later stages of healing, graded increasing frictional massage prevents tight contractures and improves circulation.

In the final reconstructive stage, late contractures and deformities are corrected and features restored. Gradually increasing resistance exercise and functional activities are prescribed for the period after hospitalization.

Radiotherapy for Cancer of the Larynx

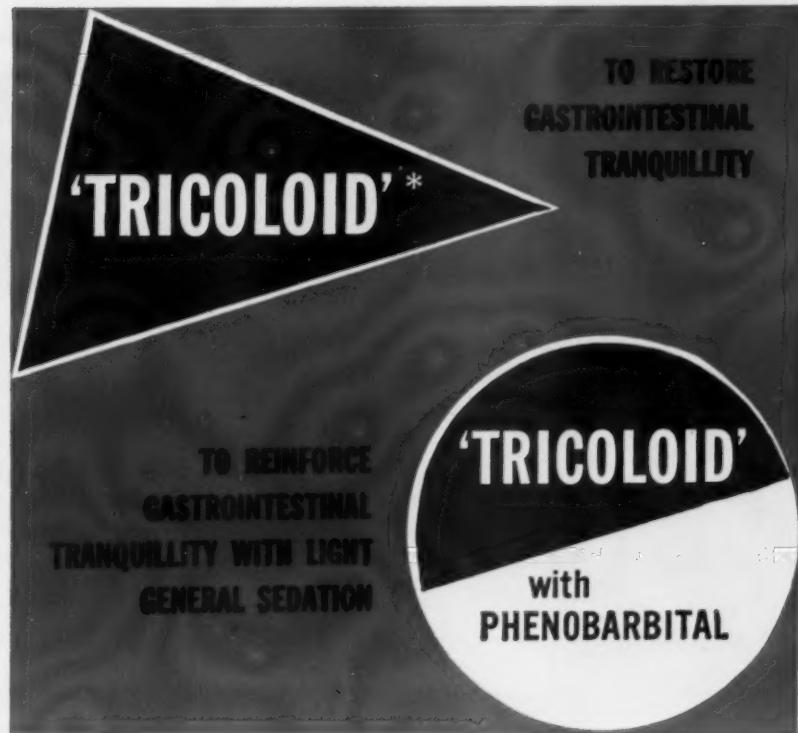
C. C. WANG, M.D., AND A. R. O'DONNELL, M.D., MASSACHUSETTS GENERAL HOSPITAL, BOSTON, report that radiotherapy is the preferred treatment of laryngeal cancer when preservation of a useful voice is desired.

Either radiotherapy or surgery is highly successful in treatment of cancer of the vocal cords in stage 1 or 2. In stage 1, the anterior two-thirds of the true vocal cord and occasionally the anterior commissure are involved. In stage 2, the anterior commissure and perhaps part of the anterior two-thirds of the vocal cord are affected. In stage 3, when the tumor extends beyond the vocal cord but does not involve lymph nodes, radiotherapy may be tried if careful observation is possible. If the disease is not controlled, radical surgery can still be done. In stage 4, when tumor spreads beyond the larynx and frequently involves lymph nodes, the results of radiotherapy and surgery are equally poor. However, if cervical lymph nodes are not involved, about one-fourth of patients are symptom-free for five years after radiotherapy.

The first course of radiotherapy must be correct, for a second opportunity for cure is rare. Well-filtered, 200-kilovolt x-rays with at least a 0.5-mm. copper filter are used. For vocal cord lesions, 2 direct opposing portals with a field size of 4 by 5 cm. are used; for more extensive disease, field size is 6 by 8 cm. Daily treatments are given alternately to both sides of the neck. Estimated tissue doses of 5,000 to 6,000 r are delivered at the rate of 200 to 250 r a day for four to six weeks. Accurate direction of the x-ray beam is vital since the treatment field is small, and the patient's position should be determined roentgenologically.

Regular, frequent indirect laryngoscopic examinations should be made to observe the reaction of the tumor and to detect edema.

Cancer of the larynx. *New England J. Med.* 252:743-747, 1955.



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functional gastroenteritis,
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"Existence has many times dealt her surly blows: an ailing husband who had to be supported for years; a son who went to war without too many faults but came home a drunkard, too weak to support himself or defeat the miserable habit . . .

"'Dexamyl' greatly helped this patient . . . she still possesses her humor, her vigor, her zest for existence because 'Dexamyl' gave her a lift and restored feelings of hope and optimism during her trying days." (This case report is in the words of the patient's physician.)

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Each 'Dexamyl' Tablet or teaspoonful (5 cc.) of the Elixir contains:
Dexedrine* Sulfate (dextro-amphetamine sulfate, S.K.F.), 5 mg.,
and amobarbital, $\frac{1}{2}$ gr.

Each 'Dexamyl' Spansule No. 1 slowly releases the equivalent of *two* tablets;
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Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off.

†T.M. Reg. U.S. Pat. Off. for S.K.F.'s brand
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Patent Applied For.



Radioactive Iodine for Thyrotoxicosis

KENT F. BALLS, M.D., RICHARD H. CHAMBERLAIN, M.D.,
EDWARD ROSE, M.D., ROBERT O. GORSON, M.S., AND
HENRY C. BLOUNT, JR., M.D.

University of Pennsylvania, Philadelphia

*Although the calculation of dosages is empirical and hypothyroidism is troublesome, radioactive iodine nearly always relieves thyrotoxicosis.**

TREATMENT with radioactive iodine is advisable for nonpalpable or diffusely enlarged toxic goiters with estimated weights of approximately 80 to 100 gm. in patients over 40 years of age. Patients under 40 years of age should not be treated with I^{131} unless toxicity persists or recurs after operation, since late carcinogenesis and genetic damage are possible hazards in young patients. Toxic nodules are treated with I^{131} only if surgery is not feasible. Radioactive iodine should never be given to pregnant patients.

If a patient has had previous antithyroid iodine medication or stable iodine-containing compounds such as radiopaque media or expectorants, at least two months should elapse before I^{131} is administered.

Patients with a twenty-four-hour uptake of 45% or less of the tracer dose are considered euthyroid, whereas those with values over 50% are considered hyperthyroid.

Methods for calculating the therapeutic dose of I^{131} are not exact. Dosage is based on estimation of gland size and clinical and tracer evidence of severity of thyrotoxicosis. Usually, 6 to 10 mc. of radioiodine is given initially. Variations in the sensitivity of the gland to radiation, uneven distribution of I^{131} , and inaccurate estimation of the effective isotope half-life may contribute to error. Propylthiouracil or Methimazole may ameliorate severe toxicity until the full effect of radioactive iodine occurs, but radiation effects may be slightly suppressed.

Side reactions are infrequent and include sore throat, nervousness, confusion, and fever. In patients with preexisting heart disease, auricular fibrillation and cardiac failure may occur. Thyroid storm and death are rare.

Of 180 patients treated for thyrotoxicosis, 37 were males and 143 were females; 123 had diffuse goiters, 15 had toxic nodules, and 42 had previous thyroidectomy. After 1 or more doses of I^{131} , 97% were relieved of thyrotoxicosis; about 79% became euthyroid, 18% were hypothyroid, and 3% required surgical relief or died.

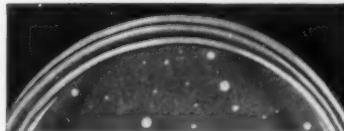
Patients with nonpalpable goi-

*The treatment of thyrotoxicosis with radioiodine. Radiology 64:858-866, 1955.

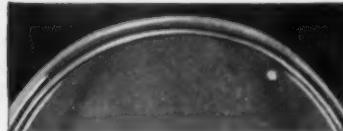
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ters or goiters estimated at less than 80 gm. in weight were benefited more by I^{131} than persons with large goiters. Most enlarged thyroids decreased in size simultaneously with improvement in signs and symptoms of thyrotoxicosis.

Hypothyroidism developed in about 16% of patients receiving a single dose of I^{131} and in 26% receiving multiple doses. Incidence was not correlated with increased dosage or with calculated radiation dosage. Hypothyroidism occurred more frequently than has been re-

ported after surgery but was not as permanent. Muscle cramps were commonly noted in the lower chest, posterior neck, abdomen, and extremities and were relieved by administering thyroid replacement therapy.

Before treatment, 57 patients had exophthalmos. After therapy, 36 had some improvement in ocular signs, 18 revealed no apparent change, and 3 had increased protrusion.

No cases of malignant exophthalmos occurred as a result of I^{131} therapy.

Syphilis in Industry

JOHN GODWIN DOWNING, M.D., BOSTON, warns that syphilis will become resurgent if controls are relaxed. A reservoir of about 2,000,000 persons in the United States who need treatment and the fact that over 150,000 syphilitics were reported in 1953 indicate that syphilis is still a major problem. Prevention of serious accidents and financial losses as well as interest in public welfare should prompt industrial concerns to do routine serologic tests of their employees.

In industries employing highly skilled workers, who generally are members of high socioeconomic groups, the discovery rate for syphilis is small. However, the cost of finding even a few diseased persons is worth while to the industry because the services of highly trained individuals can be retained and unjustifiable disability claims due to syphilis rather than to occupation in most instances can be eliminated.

In industries employing unskilled laborers or laborers of low socioeconomic groups or in industries located in areas of high syphilis prevalence, routine preemployment blood testing becomes even more important.

Industrial management must be educated regarding the employability of syphilitics or persons with positive serologic tests but no medical defect. The advisability of employing such persons should be determined by competent physicians rather than by nonmedical authority.

Syphilis in industry. *J.A.M.A.* 158:468-472, 1955.

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Medical Forum

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Exposure Treatment of Burns*

QUESTION: Under what circumstances is exposure treatment of burns advisable?

Comment invited from

B. W. HAYNES, JR., M.D.
FRANCIS D. MOORE, M.D.
DAVID W. ROBINSON, M.D.
OLIVER COPE, M.D.
W. H. STEFFENSEN, M.D.
CHARLES C. LUND, M.D.
MICHAEL L. MASON, M.D.
F. X. PALETTA, M.D.
THOMAS W. STEVENSON, M.D.
SIDNEY K. WYNN, M.D.

► **TO THE EDITORS:** In our experience, the exposure treatment of burns has given good results in selected cases.

Burns of the face and neck heal quite well by the open method, probably due to the excellent blood supply of the area and the fact that such burns are usually of first- and second-degree depth. Furthermore, the problem of dressing the face and the neck is difficult at best. The bandages are frequently contaminated with discharges from the mouth and nose as well as from fluid and food intake. Bandaging the neck poses a difficult problem in that it may contribute to pressure within the tissues and edema for-

mation and promote respiratory obstruction.

With burns of the genitals and perianal area, it is virtually impossible to maintain a sterile occlusive dressing because of contamination from fecal and urinary discharges. Fortunately, these areas are relatively protected from injury, are resistant to infection, and heal quite satisfactorily by the open method.

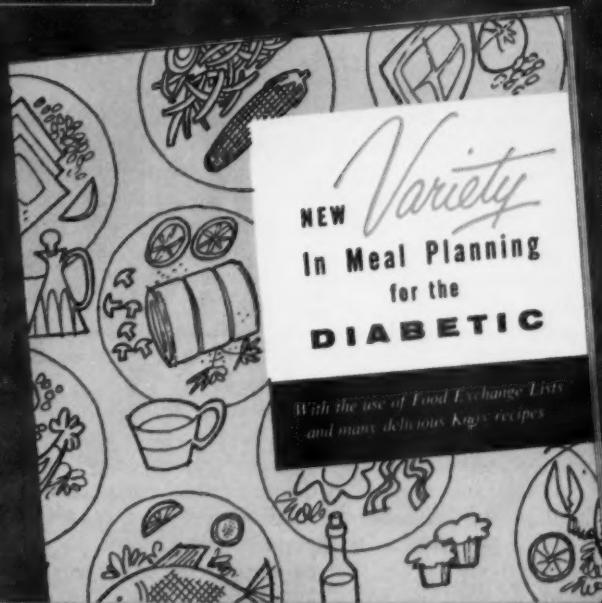
Burns of the trunk involving one exposable surface may be treated satisfactorily by either the open or the closed method but dry satisfactorily when adequately exposed continuously. If the burn is second degree in depth, healing occurs without difficulty in approximately two weeks. If the burn is third degree in depth, the eschar can usually be removed between the second and third weeks, thus expediting skin grafting.

We believe there is one additional indication for exposure treatment. That is the massive burn of 50 to 60% or more of the body surface area, regardless of location. If this group of patients is treated by the closed method, almost the total body surface must be encased in bandages. We find that this tends to interfere with heat loss and often results in continuing hyperpyrexia with disturbed function of the tem-

*MODERN MEDICINE, Aug. 1, 1955, p. 97.

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perature regulatory center and death. If such patients are treated by the exposure method, this course is infrequent.

We do not usually treat burned extremities by the exposure method. The hands are bandaged in the position of function and joints are immobilized by appropriate splints to prevent cracking of the eschar and development of infection. The legs are treated in a similar manner with the foot immobilized in the functional position.

B. W. HAYNES, JR., M.D.
Richmond, Va.

► TO THE EDITORS: The important features of the exposure treatment of burns are coolness and dryness. The normal human skin temperature is considerably below that of the interior of the body. When a patient is burned, and the burn is wrapped up in a dressing which soon becomes moist, the moisture and the dressing act as an insulator and bring the temperature of the wound up to incubator or body temperature. At this temperature, many organisms flourish that would grow much less rapidly at the lower temperatures of an open, cool surface.

The importance of dryness in the burn wound is difficult for doctors to understand unless they have had personal experience with burn wounds. The burn wound which is dry soon forms a thin sheet of protein coagulant under which new epithelium progresses with remarkable rapidity. Freedom from pain is characteristic of this situation.

Virulent invasive infection can get started under this coagulant and, if it is not properly treated by unroofing, can cause great trouble. But as long as the coagulant is clean, it is effective.

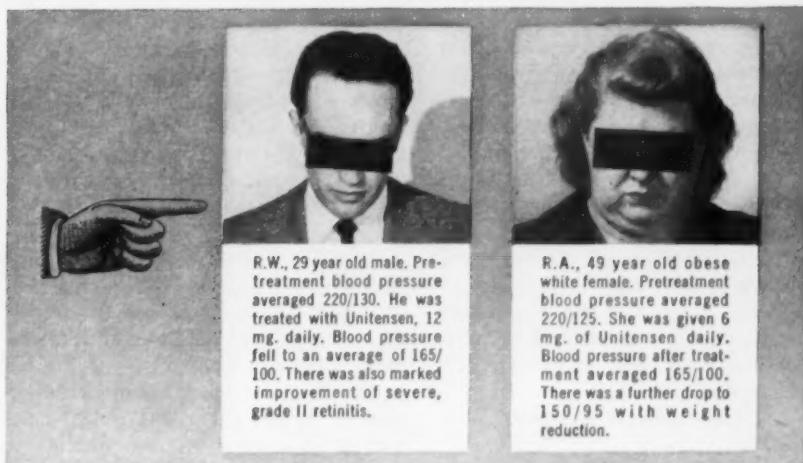
The practical problem relates to the selection of those patients in whom this treatment can be used. It would be our conclusion that the treatment can be used for almost any burned surface as long as there is adequate nursing care available. Patients with open treatment probably require more intensive nursing care than do patients with dressings.

We have treated many patients with burns of the back and front of the trunk, using open treatment. In this instance, we use the rotating bed or Stryker bed. This permits the patient to be turned painlessly and keeps the burn open and exposed a good deal of each day. We have treated burns of the hands and face this way with good success. The treatment of burns on the arms and legs is no problem.

When burns are treated in much larger numbers, many of these factors may become limiting since, if the patient cannot be turned frequently, the areas become macerated and moist at the point of contact with bedclothes. Under these circumstances, infection is invited and the advantages of the treatment are lost.

Finally, it should be emphasized that in burned patients treated by the open method, closure under a dressing is usually necessary sometime between the second and fourth weeks, either as the patient is being

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prepared for grafting or during the early phase of grafting.

But once grafting itself is started, the open treatment may again be employed to good advantage. We have left donor sites wide open without any covering with excellent results. In addition, freshly placed grafts will often do better open than with a dressing, particularly if they are on the back where the frictional motion of the dressing tends to loosen them. Without dressings, the grafts will move with the undulation of the underlying muscles and hold their take more satisfactorily.

FRANCIS D. MOORE, M.D.
Boston

► TO THE EDITORS: Burns of the trunk or extremities that are not circular and do not touch the bed-clothes can be left open to form their own eschar. Circular burns of the extremities or trunk are best treated by the closed method or at least by a simple dressing that the patient can lie on, leaving the major portion of the burn open to the air.

Burns of the face and perineum should be left exposed to form their own eschar. To seal them with a large dressing often seals in infection, converting what would have been a second-degree burn into a third-degree loss. Burns of the hands should not be exposed unless the burn is minimal. After general cleansing debridement, these should be treated by the standard pressure dressing technic in a position of function and elevated.

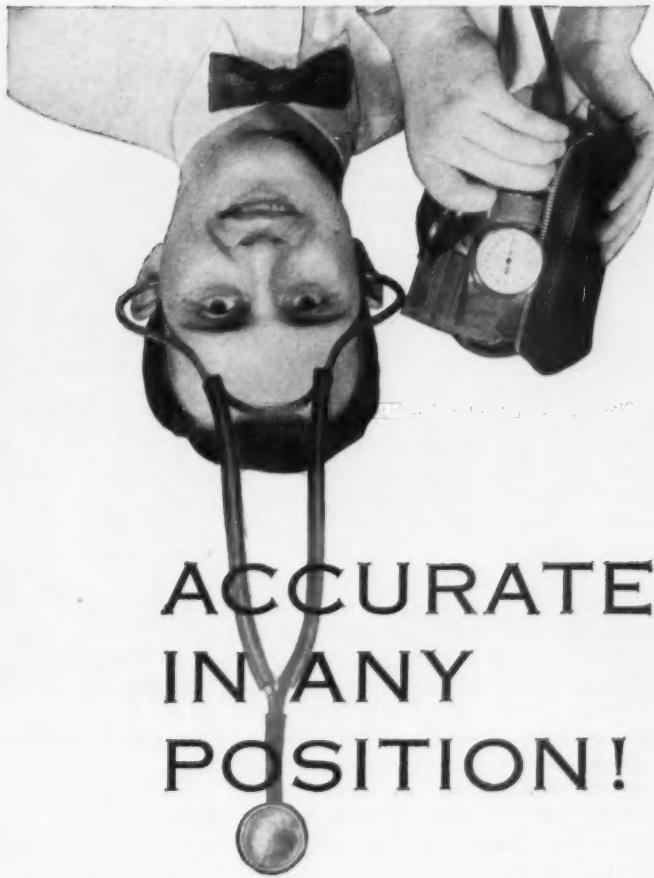
Exposure treatment after the eschar forms provides more comfort for the patient, is associated with less temperature reaction, skin maceration, and infection, and certainly is less expensive. It is not a treatment of neglect. Attendants of all kinds should be masked and use sterile precautions, at least until a tight clean eschar is formed. Frequent inspection of the eschar is necessary to avoid closed infection beneath the crust, opening areas as indicated. The liberal use of antibiotics prophylactically and therapeutically is indicated.

For the treatment of mass casualties as would come with an atomic explosion in a metropolitan area, stockpiling of sufficient dressings to treat patients by the closed method would be practically an insurmountable problem. Exposure method, here, would have to be employed and certainly would be the best for the greatest number of people.

DAVID W. ROBINSON, M.D.
Kansas City, Kan.

► TO THE EDITORS: A major road-block to progress in the management of burned patients has been the difficulty in obtaining adequate controls. Advances have been heralded by the clinician only to be abandoned in the light of subsequent experience.

Twenty years ago tannic acid was considered a boon to surface therapy. Where is tannic acid now? Where will the current concept of exposure therapy be twenty years hence? How would the vic-



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tims of the Bennington disaster have fared had they been equally well cared for by fluids, blood, chemotherapy, diet, and nursing and yet had their wounds covered with a dressing impervious to airborne bacteria? Nobody knows.

OLIVER COPE, M.D.

Boston

► TO THE EDITORS: The exposure treatment of burns was standard in this country during the first quarter of the century and was probably abandoned due to complications encountered with third-degree burns. Interest in the open-air treatment has been renewed since Wallace of Edinburgh published a preliminary report on the method in 1949.

Exposure treatment of burns has some apparent advantages but only when practiced according to clearly defined conditions. Ideally, the case selected for treatment should be a burn of second degree on a part or parts of the body which can be exposed with freedom from contact with bedclothing. Ingenious methods have been devised for suspension and elevation of extremities. A method has been used for circumferential trunk burns, but the amount of special apparatus and care entailed in the prevention of maceration would appear to outweigh any advantages the method might have.

The patient treated by exposure has less fever and somewhat less pain. The destruction of blood elements is not as great and the burn appears to heal more rapidly.

The alleged simplicity of the

method, however, is apt to be misleading to the surgeon who handles a burn only occasionally. Serious infection and other complications can result in the hands of the inexperienced or the unobserving.

The method is an approach toward the ideal in handling mass casualties since no hospital or community could have the supplies or trained personnel necessary to treat large numbers of burn casualties by the closed dressing method.

Third-degree burns may be treated initially by exposure, but before grafting, the eschar is debrided and then dressings are used to prevent gross contamination. Little, if any, advantage is gained, therefore, by combining the methods.

The exposure method of burns provides us with a choice of treatment in selected cases. Statistics indicate, however, that the mortality rate from burns has not been greatly lowered regardless of the method of care employed.

W. H. STEFFENSEN, M.D.
Grand Rapids, Mich.

► TO THE EDITORS: Exposure treatment is not new or importantly different from the treatment with gentian violet or triple dye used widely in the 1930's and in a disaster of great magnitude.

In comparing the results of patients treated in military hospitals with those treated in civilian hospitals, it must be remembered that most of the military personnel are young and are superb physical specimens. Most civilian patients are not.

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MEDICAL FORUM

In a disaster, exposure treatment may be necessary. But it was not necessary to insure the survival and cure of most of the severely burned patients from the Coconut Grove fire who arrived at the Massachusetts General Hospital.

For the patient who is to be cared for under average civilian conditions, without specially air-conditioned, isolated rooms, there is no proof that exposure treatment is an advance.

Let's remember that "God heals the wound and I dress it."

CHARLES C. LUND, M.D.

Boston

► TO THE EDITORS: The arguments advanced in favor of the open treatment of burns are centered especially about the need for care of these casualties when supplies, facilities, and personnel are limited. This, it seems to me, weakens the position immediately. As a matter of fact, the very place where the open treatment would *not* be indicated or feasible is in the care of mass casualties.

Open treatment presumes the availability of many beds under the constant supervision of personnel who must not only watch intravenous therapy but be continually on the alert to keep patients in correct position and out of contact with bedclothes, posts, and other ward furniture. After any type of disaster producing mass casualties—especially those due to explosion—dirt, dust, and debris fill the air and fall indiscriminately on all, often further contaminating open

burns. The need for mass evacuation in makeshift ambulances would make maintenance of adequate protection for open wounds extremely difficult.

When the open method is employed, most patients with burns of any size must be hospitalized, tying up a sizable number of personnel, whereas many patients with even good-sized burns may be ambulant and not require attention for six or seven days, that is, the time of initial dressing.

The above objections and criticisms apply regardless of one's opinion as to the efficacy of open care. I cannot say that I have been favorably impressed by the few cases I have seen in modern, well-equipped hospitals with adequate supplies and personnel.

MICHAEL L. MASON, M.D.

Chicago

► TO THE EDITORS: Exposure therapy is recommended in the treatment of mass burn casualties. Personnel can then concentrate on establishing fluid and electrolyte balance, which is most essential in saving life, rather than on the type of local therapy used. Circumferential body burns and third-degree burns of the hands are best treated by pressure dressings. Maceration occurs in the parts not exposed in circumferential burns. Exposure treatment allows enough time for organization of surgical teams and installations to carry out the surgical debridement necessary between the seventh and fourteenth days. Early debridement, around the



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seventh day, on burns of the hand with immediate skin grafting is advised to prevent necrosis of tendons and joint infection due to delayed coverage.

I prefer the pressure treatment of burns in cases encountered in civilian practice. However, exposure treatment would definitely be the most practical and the treatment of choice in handling a massive number of burns which one would encounter in atomic warfare.

F. X. PALETTA, M.D.
St. Louis

► TO THE EDITORS: I am not entirely opposed to open treatment for burns. When I first came to Presbyterian Hospital in 1929 a set of experiments testing open treatment was just being abandoned and this indicated that with adequate care closed treatment was just as effective. The exceptions to closed treatment are, of course, the face and buttocks which are habitually contaminated.

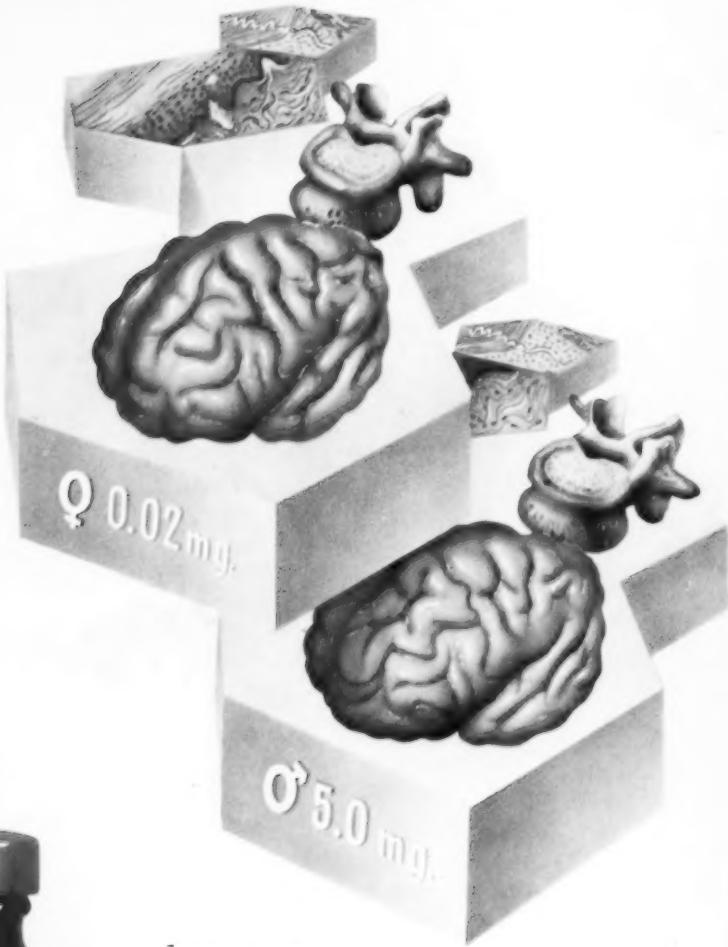
In case of mass casualties, it would be necessary to wrap up a large number of patients rather rapidly. In my opinion, wrapping should be done without debriding anything except hanging, shredded clothing and then the burned area should be wrapped with a single layer of impregnated, very fine mesh gauze. This gauze should be very dry so that the discharge is not enclosed too much by greasy substance. The burn should then be wrapped in a relatively simple absorbent padding and the whole wrapped with a bandage. In case of mass casualties, a bath towel could be substituted for the padding. When this is done there is



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much less discomfort since, as soon as a wound is covered, pain is diminished. Also, the patient is more comfortable while lying around on a concrete floor for a day or two awaiting evacuation. Usually, under these conditions, there is no heat, and trained personnel are not available to arrange the sterile coverings. Also, wrapping cuts off air contact, and, in case of loss of power or during cold weather, the patients are more comfortable.

Naturally, it is necessary to make some inspection of patients and the ones who stay dry and sweet should be separated from those who do not. The latter need a change of dressing.

The time elected for grafting in most of these cases can be easily agreed upon. Grafting should be done as soon as possible, usually within two to three weeks. In burns, when the depth can be detected, excision can be carried out even though the burn is dirty, and a clean graft placed in the wound.

We have one general objection to both forms of treatment and this has been the habit of scrupulous debridement under anesthesia. Sometimes, it appears that a considerable number of patients have been lost at this critical time.

THOMAS W. STEVENSON, M.D.
New York City

► TO THE EDITORS: The actual advisability of exposure treatment of burns is difficult to outline according to circumstance, because the factors vary considerably in accordance with the extent and depth of

burn, age of patient, time at which the burn was received for care, local climatic conditions, nursing help available, accessibility of sufficient sterile sheets and sling attachments to beds, general condition of the patient, availability of veins for parenteral therapy, and so on.

I believe, all in all, that with burns of first or second degree, exposure therapy effects healing with less chance of secondary bacterial invasion and consequent deep epithelial loss. If a burn occurs in a circumferential area, bed sheet contamination is difficult to prevent, especially in children, and in these circumstances, I have shied away from open therapy. Often combined therapy can be used, that is, closed therapy for extremity circumferential burns and open therapy for face and stomach-chest burns in the same individual.

At times it may be advisable for the comfort of the patient and easing of the physician's load as far as general treatment is concerned to start out with closed therapy so that the patient can turn with greater ease in the initial burn stages when he is apt to be more or less restless and then switch after three to five days to the open method. This is especially true if secondary bacterial invasion occurs.

I have found nothing that clears up a moist "green bug" in an early burn faster than exposure treatment. These patients are taken to the operating room under sterile conditions. Rectal Pentothal anesthesia suffices in children. Heavy morphine sedation or general anes-

thesia is used for adults. Dressings are removed, the burn scrubbed with pHisoderm, irrigated with aqueous Zephran, and then dried with a sterile towel or sponges. The patient, with the area exposed, is replaced in bed with sterile bed sheets. Young children and infants are usually restrained at the wrists and ankles to prevent turning. Urinary and fecal contamination in young children should be prevented insofar as possible. In burns of the buttocks and perineum, small Bradford frames with proper openings are useful. In adults, the Stryker or Foster bed is practically mandatory when burns are severe.

With severe burns of the back, especially with concomitant facial burns, the rationale behind starting out with closed therapy with the patient lying in the supine position becomes apparent. This facilitates getting at veins in the antecubital spaces, keeping the patient off the face, and introducing Wangensteen gastric suction. Under these circumstances, it is easy to switch to open therapy after the third to fifth day. If the face is still bad enough so that the patient cannot lie on it, he can be placed on the Stryker or Foster bed with the provided head opening and appropriate sling for the forehead.

Exposure therapy is almost always used for face and perineal burns. Closed therapy is indicated on the feet and lower extremities if ambulation is to be early or the problem of orthostatic edema becomes apparent.

No matter what type of therapy

is used, first- and second-degree burns will heal satisfactorily as long as the general condition of the patient is kept up and secondary infection with destruction of epithelium is prevented. This is the main thesis behind judicious use of open or closed therapy in the right places at the right time. When the burn is third degree, the choice of therapy must be changed after sixteen to twenty-one days, when the lesser burns will have epithelialized. Therapy, consisting of debridement and wet dressings, should be directed toward the earliest possible coverage with skin grafts.

SIDNEY K. WYNN, M.D.
Milwaukee

The Role of Simple Mastectomy*

QUESTION: When is simple mastectomy preferred to the radical procedure for carcinoma of the breast?

Comment invited from
H. GLENN BELL, M.D.

► TO THE EDITORS: I think we all agree with the general reasons for simple mastectomy outlined by Drs. Benjamin F. Byrd, Jr., and Dawson B. Conerly, Jr. In brief, these indications are:

- Concomitant debilitating illness, other than cancer of the breast
- Advanced age
- Cancer of the breast so far advanced as to be apparently incurable.

Without these specific criteria, however, I feel that any operable

*MODERN MEDICINE, July 1, 1955, p. 95.



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MEDICAL FORUM

cancer of the breast should have the benefit of a more extensive surgical procedure.

It is very difficult, if not impossible, to make any definitive comparison between series reported from different clinics because of so many variables in the host and also in the type and potentiality of tumor involved. If we had some test to positively determine the extent of a carcinoma, then a simple mastectomy or perhaps only a wide local excision would be necessary for a lesion absolutely localized in the breast tissue. In doing a simple mastectomy, however, one has no conclusive information about the axillary or submammary nodes. We all know that our clinical judgment is wrong about 50% of the time. Therefore, in any operable case of carcinoma of the breast, the possibility of incomplete removal of involved tissue is too great to warrant only a simple mastectomy except in cases with the above indications.

For the past two and a half years we have been treating all of our operable cases with radical mastectomy and postoperative radiation, plus intravenous P^{32} . The extent of the radiation depends upon the pathologic study after radical mastectomy.

As for the so-called superradical procedure of radical mastectomy, resection of the internal mammary chain, and radical neck dissection, it will take time to prove whether this approach will increase the survival rate sufficiently to justify the increased mortality and morbidity.

Certainly, as far as I personally am concerned, I do not feel that the procedure is complete with dissection of the internal mammary gland unless the chest wall in that area is also removed. Otherwise, complete removal of the lymphatic channels going through the intracostal muscle is not accomplished.

H. GLENN BELL, M.D.
San Francisco

Sinus Disease and Asthma*

QUESTION: What is the relation of disease of the paranasal sinuses to asthma?

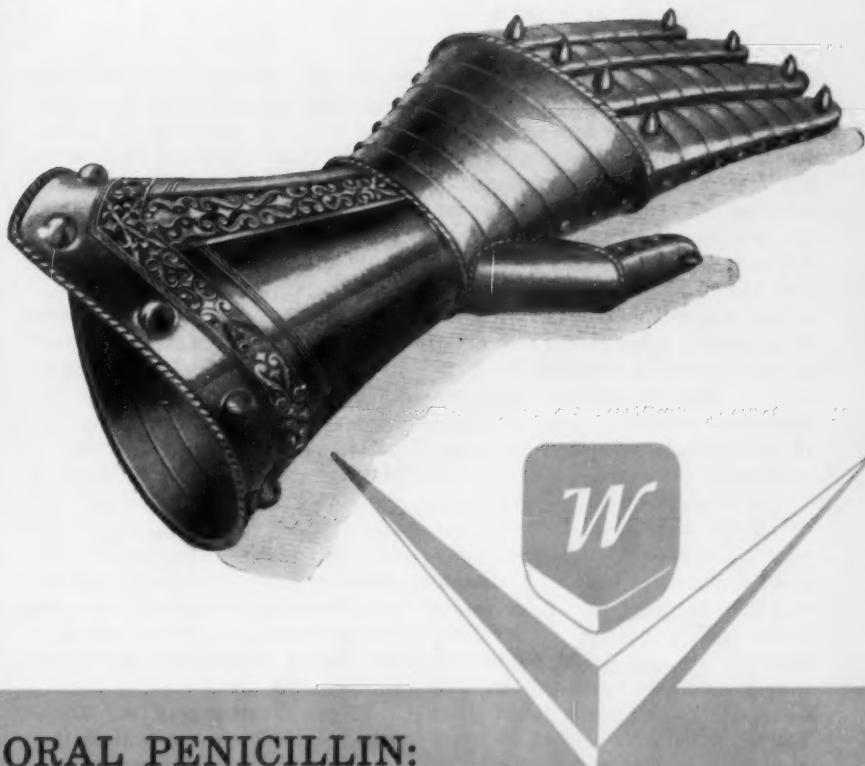
Comment invited from

JOHN H. WALKER, M.D.
STEPHEN D. LOCKEY, M.D.
OSCAR SWINEFORD, JR., M.D.
RUSSELL CLARK GROVE, M.D.
NATHAN E. SILBERT, M.D.
F. M. POTTENGER, M.D.
VINCENT J. FONTANA, M.D.

► TO THE EDITORS: Sinus roentgenograms may offer the rhinologist valuable information which cannot be detected on direct inspection. Roentgenograms should not, however, be relied upon completely since they do not manifest the actual degree of disease that is present.

Dr. Joseph L. Goldman and associates have detailed the correlation of sinus roentgenograms with bacteriologic findings in the presence of intrinsic and extrinsic asthma. They have not stated at what time in the course of the disease or observation period the roent-

*MODERN MEDICINE, July 15, 1955, p. 150.



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genograms were obtained. Just as the presence of infection with positive cultures waxes and wanes so does the finding of thickened membrane in the paranasal sinuses. It must be pointed out, however, that the two do not necessarily coincide precisely as to time. It is quite possible that negative sinus roentgenograms may be obtained in the face of subsiding infection or subsiding allergic response and, on the contrary, roentgenograms showing thickened membrane may be noted in the absence of either infection or allergy.

The concept of the vicious circle of allergy with mucous membrane edema followed by infection is not new. Ordinarily, when the allergic response subsides, the infection is more rapidly brought under control and the thickened membrane noted in the roentgenogram will disappear. Whether persistent sinus disease is in itself related to other manifestations of allergy such as asthma is a moot question. The consideration of nasal polyps and diffuse polypoid hyperplasia of the paranasal sinuses should be considered in this broad question. Paranasal sinus polyps are usually co-existent with intranasal polyps. In our experience, when allergy has been partially controlled, the management of the intranasal polyps is most permanently settled by using judicious radium therapy after polypectomy. The resultant clean airway frequently produces gradual resolution of changes in the paranasal disease.

JOHN H. WALKER, M.D.

Seattle

► TO THE EDITORS: As an allergist, I feel that the combination of thickened mucous membranes, edema, and infection is present in most patients with so-called intrinsic asthma. In most instances, when these patients develop a flare reaction or acute infection of their sinuses, they also develop attacks of asthma.

Proper treatment of the sinuses coupled with symptomatic treatment of the asthma usually completely alleviates the symptoms for the time being. An allergic individual is more prone to infections of the sinuses. He is also most likely to develop a sensitivity to various inhalants in his environment. I feel that the sinuses of each and every longstanding asthmatic patient should be examined for evidence of chronic infection. Nasal smears prepared according to the Hansel technic will often demonstrate this fact.

Proper treatment of the sinuses plus specific hyposensitization therapy and environmental control are always indicated in these patients.

STEPHEN D. LOCKEY, M.D.
Lancaster, Pa.

► TO THE EDITORS: The relation of disease of the paranasal sinuses to asthma is a complex problem. It has not been studied comprehensively but should be because it arises so frequently. For example, suppurative sinus disease was found in 181, roughly one-fourth, of 720 unselected asthmatic patients in this clinic. The considerable incidence of nonsuppurative sinus disease was not recorded.

Chronic asthma is usually due to



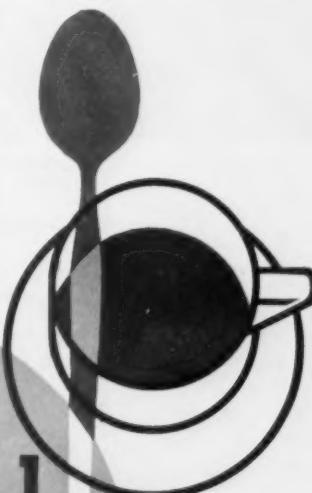
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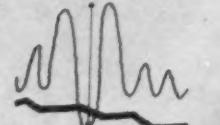
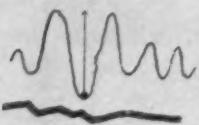


in bronchial asthma

objective

increase in

vital capacity



Spirogram before Choledyl therapy. Note markedly diminished vital capacity.

Based upon Dann, S., et al.: Internat. Rec. Med. & Gen. Pract. Clin. 167:265, 1954.

subjective

relief of

patient

suffering



Asthmatic (E.C.) before Choledyl therapy.

Patient (E.C.) after Choledyl therapy "less wheezing; chest less tight."

Based upon Dann, S., et al.: Internat. Rec. Med. & Gen. Pract. Clin. 167:265, 1954.

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dosage: Adults—Initiate with 200 mg. q.i.d. preferably after meals and at bedtime. Adjust to individual requirements. Children over six—100 mg. t.i.d.

1. Brown, E. A., and Clancy, R. E.: Presented at the Eleventh Congress of the American College of Allergists, April 29, 1955, Chicago, Illinois. To be published.

NOTE: Clinical reports on the efficacy of Choledyl in bronchial asthma and other indications are available on request.



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MEDICAL FORUM

multiple causes. Infection is one. Allergy plus infection account for more cases than either allergy or infection alone in this clinic. There is little doubt that sinus infection causes asthma. As the sole cause, the incidence is low, perhaps 3 to 5%. As an important complicating cause, however, the incidence is high, perhaps 30 to 40% in chronic asthma.

What is the evidence that sinus infection causes asthma? There is a good deal. For example, there are patients who have asthma only when their sinuses become infected; some are relieved only when infected sinuses are treated effectively; others can abort severe attacks by starting antibiotics in the early stages of acute respiratory infec-

tions; still others are relieved, or are made worse, by vaccines made from sinus cultures.

How does sinus infection cause asthma? No one knows. The much abused term, bacterial allergy, has such broad implications that little is gained by using it. Bacterial antigens can cause anaphylactic, tuberculin, Arthus, id, and atopic-like allergic reactions. Little effort has been made to identify these mechanisms with asthma from sinus infection. If bacterial allergy causes asthma, how and why do the antigens sensitize the bronchi and not other tissues? How and in what form do the antigens get to the sensitized bronchi to elicit the allergic reaction—asthma? These merely serve to introduce a long list of un-



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Philadelphia, Pa.

answered questions about which there has been much speculation.

Does the nasobronchial reflex mediate the sinus-asthma syndrome? It seems to at times. No other mechanism explains so well the occasional prompt relief of severe asthma by anesthetizing the nasal and paranasal structures, by antrum lavage, or by the old-fashioned cocaine nasal sprays.

Does the sinobronchitis syndrome—aspiration of infected sinus discharges with secondary bronchial inflammation—cause asthma? Perhaps, even probably, but simple tenable examples in support of the idea are not at hand.

There is little evidence that non-suppurative disease causes asthma. Nasal polyps seem to, by way of the nasobronchial reflex, but there is little to support or disprove the idea that polyps within the sinuses can cause wheezing. Interpretation of the role of nonsuppurative sinus disease in the etiology of asthma is made particularly difficult by the tendency of the allergic reaction to affect the nose and, secondarily, the sinuses concurrently with bronchial reactions.

Sinus infection alone, allergy alone, or more often both, may cause chronic asthma. When both are present, both should be recognized and treated specifically. The criteria for the recognition of allergic reactions and of infection are quite clear-cut when the history, physical examination, roentgenograms, and rhinologic data are evaluated. This can be done quickly and easily at times. More often it takes more time than the physician

is willing to spend on the problem.

The practical clinical aspects of the relation of disease of the paranasal sinuses to asthma is far ahead of the understanding of the mechanisms by which sinus disease causes asthma. This should not be too disturbing, since there are still many controversial aspects of the mechanisms of such widely studied problems as congestive failure, peptic ulcer, and diabetes.

The lot of the patient with disease of the paranasal sinuses in asthma would be improved greatly if [1] allergists and rhinologists would collaborate more closely, [2] rhinologists would approach the problem of sinusitis with much more ingenuity than they have exhibited in the past twenty-five years, and [3] if the medical schools would appoint and support full-time allergists to a degree comparable to their support of cardiologists, gastroenterologists, hematologists, and so on. Is there any reason why they shouldn't?

OSCAR SWINEFORD, JR., M.D.
Charlottesville, Va.

► TO THE EDITORS: Does sinusitis cause asthma? I answer very emphatically that I believe it does. This has been a very controversial question since clinical allergy was recognized. Voltolini in 1871 first reported 11 cases of asthma cured, as he described it, by the removal of nasal polyps. Today, Cooke and his followers are the foremost proponents of the theory that infection causes asthma. It is thought that

(Continued on page 222)

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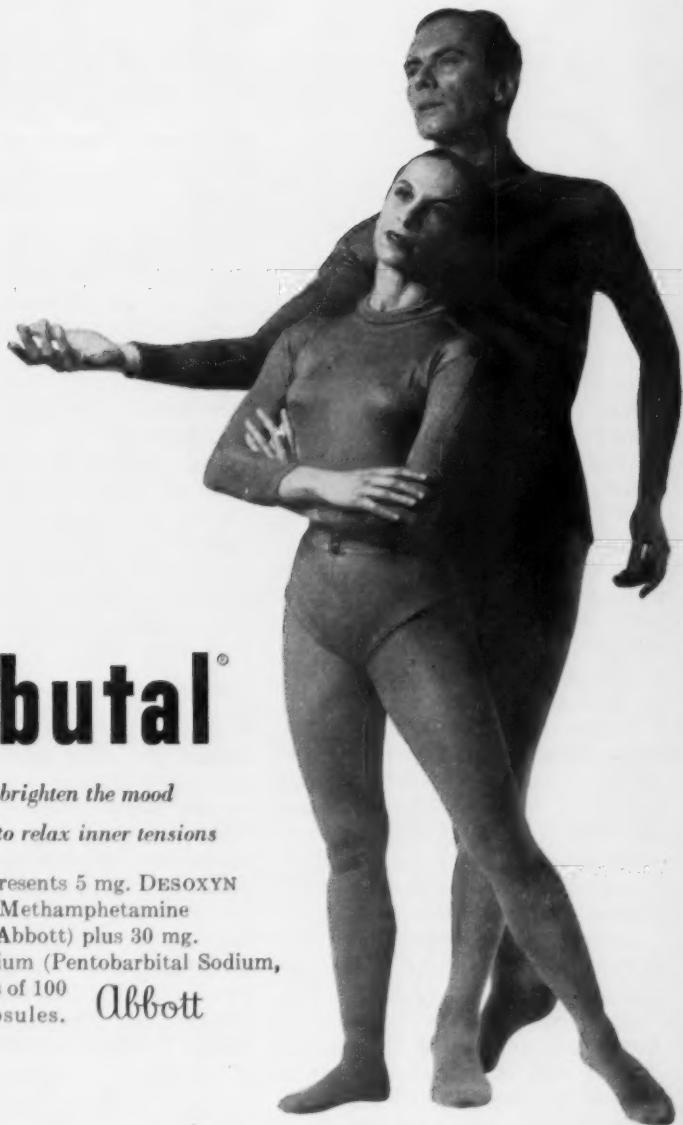
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the asthma is due to an allergic reaction to the bacteria or their products in the sinus membranes.

It is not unusual for an adult patient or a mother to say about her child, "Doctor, I am sure the asthma is caused by an infection in the sinuses." This statement is usually made because the patient associates his asthma with colds or postnasal discharge. Cooke, in an analysis of 470 patients over 10 years of age with asthma, found that in 45%, sinusitis was the sole cause of the asthma and in an additional 15% it was a secondary cause. In this infective group there was an antecedent history of allergy in 45%, as compared with the 52% histories in the noninfective or sensitive group. In fact, asthma was present in 65% of the antecedent histories.

I think that a lot of the disagreement as to whether sinusitis causes asthma is due to the lack of agreement among otolaryngologists and allergists concerning the nature of hyperplastic sinusitis. We are apt to think of sinusitis only in terms of suppuration. Pus is rarely present in these cases unless there has been a recent upper respiratory infection. Cultures of the washings are often sterile and smears of the white gelatinous secretion which is often obtained with irrigation of an antrum may not show pus cells or organisms. Our bacteriologic and pathologic studies have shown us that the germs are present in the deeper tissues of the hyperplastic membranes and not on the surface. Today, with so much use of antibiotics, the organisms are not demonstrated as easily as in previous

years. Furthermore, we have been able to produce asthma with autogenous vaccines made from these membranes, removed surgically, in a large number of patients and not rarely as some physicians state.

The fact that irrigations of the sinuses and proper surgery will help these patients with asthma goes to prove that sinusitis can be a cause of asthma. In a recent analysis of 300 patients with asthma who were operated on conservatively and radically at the Roosevelt Hospital during the past twenty-three years, it was found that 30% had no subsequent asthma or a rare attack and an additional 39% were improved.

I think sinusitis is often overlooked as a cause of asthma because of incomplete examinations. On the other hand, many patients are operated on whose asthma is not caused by sinusitis and therefore the results are discouraging.

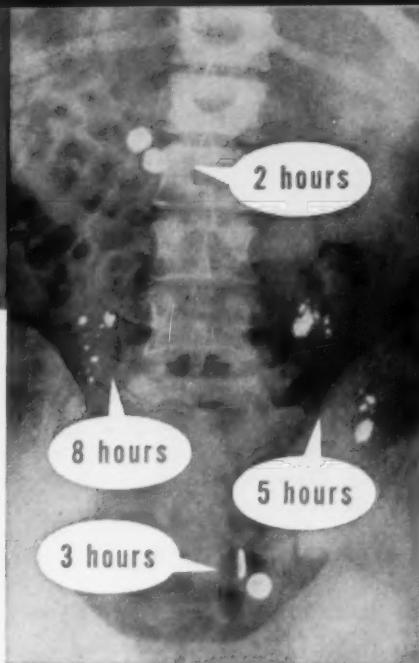
RUSSELL CLARK GROVE, M.D.
New York City

► TO THE EDITORS: With allergic rhinitis, the most prominent histopathologic changes are edema and eosinophilic infiltration. Concurrent degenerative and regenerative alterations are found in the epithelial cells, with an increase in the number of goblet cells. In the subepithelial layer beneath the basement membrane, edema is the most important feature. Edematous enlargements and the development of polyps are the result of swelling within this area. When the stroma can no longer support the fluid, the tissue prolapses, with the for-

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mation of a polyp. In edematous areas, eosinophils may be scattered throughout the tissue but are usually collected in greatest numbers about the glands and blood vessels, especially those lying just beneath the basement membrane.

Allergic changes may be reversible or irreversible. With regard to the irreversible changes, one cannot help speculating on the possibility that the Arthus phenomenon, the Shwartzman phenomenon or the Schultz-Dale reaction may be involved.

The Arthus phenomenon occurs when antigens are injected repeatedly into the same subcutaneous site in laboratory animals. Although early injections are readily absorbed, later injections are not, and the skin at the site of the injections becomes surrounded by inflammation with tissue necrosis. This phenomenon may be involved in the mucous membrane of the paranasal sinuses after repeated episodes of exposure to pollens, dust, or molds, resulting in mucous membrane breakdown.

Repeated exposures of the sensitized nasal mucous membranes to offending allergens over a long period of time cause marked local tissue destruction. This severe reaction resembles closely the Arthus-type reaction so easily demonstrated in animals.

When exposure is continuous and in heavy concentration, the membrane may become supersaturated, so to speak, and systemic absorption of the antigen or allergen may occur. These circulating antigens may then attack any organ system.

However, the one so-called shock organ most frequently involved is the lining of the lower respiratory tract. Some controversy exists as to whether this bronchial involvement results from a specificity of the circulating allergen or is due to local spread along contiguous mucous membranes or lymphatics. In any event, the usual resulting symptomatology takes the form of either allergic asthmatic bronchitis or bronchial asthma.

The Shwartzman phenomenon also may be involved in the production of irreversible changes. Shwartzman observed that when a bacterial filtrate is injected into the skin of a normal rabbit and later another dose of the filtrate is injected intravenously, a hemorrhagic reaction is produced with necrosis at the site of the original subcutaneous injection.

The continued absorption of the antigen may ultimately produce bronchial asthma, which is possibly a Schultz-Dale type of reaction. In this reaction, a loop of small intestine of sensitized guinea pig placed in a bath of Ringer's solution undergoes tetanic contractions when homologous antigen is added to the bath. This may be the cause of attacks of bronchospasm and bronchial asthma that follow episodes of acute or subacute sinusitis. It is not until the smooth-muscle tissue of the bronchus has become sufficiently saturated with antigen that we observe the spasm.

One must readily admit that the relation of these experimental reactions to clinical allergy is still in the field of speculation. However,



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we feel that they should be kept in mind when observing the local changes produced by allergic rhinitis.

Gross inspection of the typical allergic nose reveals that the mucous membrane of the turbinates is pale, gray, glistening, and edematous. When we see such a membrane, we can immediately say that we are dealing with an allergy. The only exception, which can be ruled out by history, is the nose that has been subjected to overmedication, particularly with vasoconstrictors. When, as is often the case, the allergy is complicated by chronic secondary infection, the diagnosis cannot be made by inspection alone.

The characteristic appearance of the pale, boggy membranes that we have described is seen only when allergy is not complicated by bacterial infection. However, such secondary infection is quite common, the obvious reason being that the swelling and edema of the membranes interfere with drainage and the turgescent tissues present an excellent medium for bacterial growth. Thus, pathology in the nose and sinuses must be divided into that which is due to [1] allergy, [2] infection, or [3] allergy with superimposed infection. These causes can often be differentiated by a correlation of the clinical picture with the appearance of stained smears of nasal mucous membrane.

Physicians should be acutely aware of the secondary involvement of the lower respiratory mucous membrane, which can and usually does follow repeated upper respiratory and sinus mucous membrane

infections and allergy, and govern themselves accordingly in an effort to decrease the incidence of such bronchial asthma.

NATHAN E. SILBERT, M.D.
Lynn, Mass.

► TO THE EDITORS: Sinus infection and asthma are not necessarily related. One may exist without the other, or they may coexist. Many sinus diseases are primarily vasomotor phenomena which become infected secondarily; others begin as infections and vasomotor phenomena follow. Some asthmatic patients with sinus infection have an extension to the bronchi, and an attack of asthma is precipitated; if already present, the asthma may be aggravated.

So whenever an asthmatic patient develops signs of sinus disturbance, whether of a vasomotor nature or an infection caused by one or more of the many bacteria in the nasal passages or the sinus, it should be cared for at once. If the process is primarily vasomotor, infection is likely to be superimposed unless it is checked within a few hours. If the process is of an infectious nature at first, vasomotor disturbances are also present.

A preparation which has always served well to relieve the vasomotor disturbances consists of equal parts of the tinctures of aconite, belladonna, and opium. The initial dose is 10 drops; 3 to 5 drops are then given every three hours until the throat becomes dry and secretion is lessened or the feelings in the throat are relieved. When this has been

accomplished, the interval between dosages may be lengthened. Therapy is then continued for a few days. Whenever infection is present, whether primary or secondary to a vasomotor disturbance, antibiotics should be used.

Such treatment will usually relieve the upper respiratory involvement and frequently prevent or cut short paroxysms.

F. M. POTTENGER, M.D.
Monrovia, Calif.

► TO THE EDITORS: The question of foci of infection and its relation to asthma remains controversial and unanswered.

We have found that at least one-third of all cases of bronchial asthma in both children and adults have as a sole or complicating cause infection localized primarily in the upper respiratory tract, especially in the paranasal sinuses, tonsils, adenoids, and nasopharynx. It is frequently difficult to ascertain whether the infection is primary or secondary or whether it is the true cause of the asthma. In the older age group, when age at onset of the respiratory allergy is 50 years or over, the eliciting factor is almost always infectious.

Bacterial involvement usually accounts for the difficulty in obtaining successful treatment in cases of respiratory allergy which fail to show improvement under careful specific treatment as indicated by history and by intradermal testing. These cases should be suspected of possessing a focus of infection, most commonly localized in the

adult group to the paranasal sinuses.

The diagnosis of sinus involvement can usually be made on clinical evidence and after careful evaluation of the allergic history. The response of the asthmatic attack to vigorous antibiotic therapy, roentgenograms of the sinuses, sinus irrigations, smears for eosinophils, and radiopaque studies can be used as additional tools in confirming a diagnosis of sinusitis.

Good results, with marked reduction of asthmatic attacks, are obtained in properly selected cases when treatment is individualized and determined by the local rhinologic findings. The rhinologic procedures and their indications, as outlined by Dr. Goldman and his associates, should bring about relief of a major portion of the asthmatic symptoms in selected cases of infective asthma.

Unsatisfactory results will occur, due to failure to institute the rhinologic procedures sufficiently early, psychosomatic influences, or a complicating inhalant food sensitivity.

VINCENT J. FONTANA, M.D.
Woodhaven, N.Y.



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Case MM-298

THE CLUE

ATTENDING M.D.: We have a young woman for you to see today who has baffled us. I am convinced that she is really ill, but it has been very hard to fit all the pieces together. We have not made a diagnosis yet. Briefly, she began losing weight about two months ago and now weighs 96 lb.; her usual weight is about 120 lb. She tires easily, has been emotionally unstable and nervous, and has had frequent crying spells. Her appetite and digestion are good, although her stools have become somewhat loose.

VISITING M.D.: Not real diarrhea?

ATTENDING M.D.: No. Instead of a

normal daily movement with a formed stool, she has had 1 to 3 soft stools a day, but with no watery stools or blood, pus, or discomfort. Actually, the change in bowel habits was elicited only on direct questioning.

VISITING M.D.: What was the patient's chief complaint?

ATTENDING M.D.: Nervousness and unprovoked crying.

VISITING M.D.: Are you certain that she is not just emotionally upset? Depressed patients often lose weight.

ATTENDING M.D.: I haven't given you the entire story. She has definite heat sensitivity and sweats excessively.

VISITING M.D.: Do you mean to say that she has hyperthyroidism? But why did you say this case was baffling?

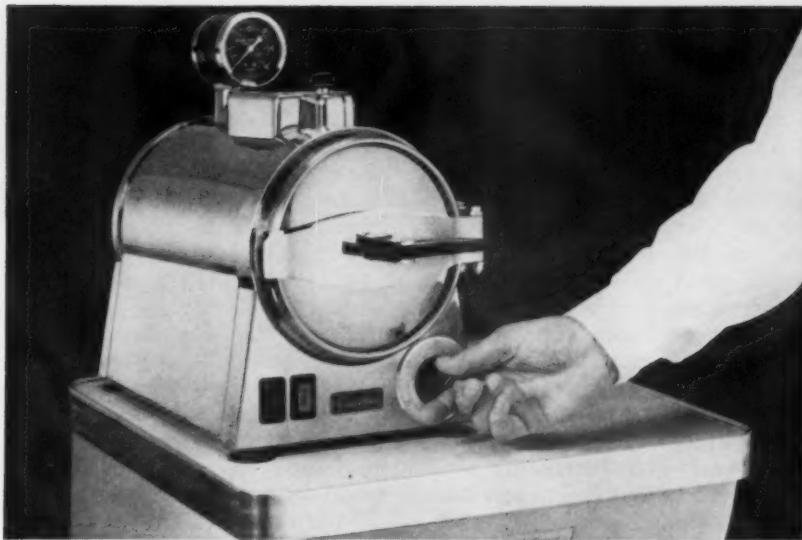
ATTENDING M.D.: Hyperthyroidism was my diagnosis, but the laboratory doesn't confirm it. The uptake of radioiodine was only 4% of the tracer amount.

PART II

VISITING M.D.: That is a surprise. Had she received iodine recently or has an iodine-containing dye been used for roentgen study?

ATTENDING M.D.: No. I asked about iodine, cough syrups, kidney or





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Dr. _____

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DIAGNOSTIX

gallbladder studies, myelogram, or bronchogram, and she stated that she has had none of these. In fact, she hasn't been to a doctor for years.

VISITING M.D.: Do you have any more information to add before we go ahead with the physical findings?

ATTENDING M.D.: Very little. She has had palpitation and some insomnia. She works at a lunch counter in a drugstore and has been taking her temperature almost every day that she felt hot and weak. The temperature never exceeded 100° F. and has usually been around 99.6°. She has tried short courses of broad-spectrum antibiotics but without much benefit.

VISITING M.D.: Have there been any shaking chills or paroxysms of sweating?

ATTENDING M.D.: No chills. She does notice more perspiration when she is busy working, but there have been no sudden, drenching sweats.

VISITING M.D.: Has she ever been ill like this before?

ATTENDING M.D.: No, and the rest of the history is negative. The blood pressure is 136/60. Here is her room.

VISITING M.D.: (*Later, in the corridor*) She certainly appears thyrotoxic, with warm, fine, moist skin and tremor. The eyes appear normal. Did you measure for exophthalmos?

ATTENDING M.D.: The globes meas-



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- Acid-stable—virtually unaffected by gastric acid
- Alkaline-soluble—optimally absorbed in duodenum
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BICILLIN® VEE, 100 mg. (100,000
units) of benzathine penicillin
G and 62.5 mg. (100,000 units)
of penicillin V, bottles of 36.*



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DIAGNOSTIX

ure 14 mm. from the lateral orbital rim bilaterally.

VISITING M.D.: That is normal. The thyroid gland does not feel abnormal, although the isthmus may be a little prominent.

ATTENDING M.D.: The gland was not tender, either.

VISITING M.D.: That is an important point. Subacute thyroiditis certainly can produce toxicity and a very low I^{131} uptake.

ATTENDING M.D.: I thought of thyroiditis when the 4% radioiodine uptake was reported. Incidentally, she does not look quite as toxic now as she did five days ago, and her temperature was normal yesterday and today.

VISITING M.D.: Probably just the effect of rest in bed. Well, except for slight tachycardia, I find no other physical abnormalities. Do you?

PART III

ATTENDING M.D.: No. We may as well have the laboratory reports. Usual blood counts, serologic reactions, and urinalysis are normal. The chest film is negative. Her basal metabolic rate is plus 45 and the protein-bound iodine is 16 μ g. Everything but the radioiodine uptake suggests thyrotoxicosis.

VISITING M.D.: I agree. Did you have the radioiodine uptake repeated?

ATTENDING M.D.: Yes, and the second time the technician scanned the pelvis with the counter and determined urinary I^{131} excretion. There was no abnormal uptake over the pelvic organs, and

the urinary excretion was almost 90% of the tracer dose.

VISITING M.D.: I see you considered struma ovarii. I have yet to see a case, but the thought was good. Well, the combination of high basal metabolic rate and protein-bound iodine with low radioiodine uptake and high excretion of radioactive iodine indicates only one diagnosis as far as I know. What disorders have you considered?

ATTENDING M.D.: Well, the hypermetabolism seemed definite as the patient was cooperative and at ease during the test, and results were the same when the test was made again. The only nonthyroid disorder which I looked for was a pheochromocytoma. The histamine provocative test was negative. That was done before the protein-bound iodine was reported. I can't think of much else.



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**Complete bibliography on request.

***as derived from *Streptomyces* fermentation extractives.

DIAGNOSTIX

PART IV

VISITING M.D.: I believe that this young woman has been taking large doses of thyroid tablets for some reason.

ATTENDING M.D.: Taking thyroid? Well, I never asked her that directly. Would that cause this combination of test results?

VISITING M.D.: As far as I know, that is the only thing which would make the physical findings and laboratory tests look like hyperthyroidism with a very low uptake of I^{131} . The exogenous thyroid depresses the normal thyroid gland, probably by inhibiting the thyrotropic hormone secretion of the pituitary. As a result, the thyroid gland won't take up I^{131} . However, the pro-

tein-bound iodine and the basal metabolic rate are high.

ATTENDING M.D.: (Later) The patient admitted taking gradually increasing doses of thyroid, which she prescribed for herself in order to get more pep. She started with $\frac{1}{2}$ gr. a day. She has been taking progressively more in the last three months in a misguided attempt to correct the very symptoms which the drug was producing.

VISITING M.D.: Where did she get the medicine?

ATTENDING M.D.: Remember, I said she worked in a drugstore. She has been helping herself to her employer's stock. That's the reason why she didn't volunteer the information.



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GERMANY

The Dumping Syndrome

Careful study of the circulatory characteristics of many patients with the dumping syndrome after gastric resection leads Drs. W. Schrade and R. Heinecker of the University of Frankfurt to believe that the condition is essentially due to overactivity of normal circulatory responses to food intake. Blood pools in the splanchnic bed, causing cerebral anemia. To prevent such pooling, a tight abdominal binder is applied and the patient is encouraged to rest in a horizontal position after meals.

Schweiz. med. Wchnschr. (Basel) 85:481-488, 1955.

Effects of Isoniazid

Administration of isoniazid apparently produces a bleeding tendency, states Dr. Robert Krassner of the Havelhöhe Tuberculosis Sanitarium, Berlin. The increased propensity to bleed appears about two weeks after the institution of therapy and begins to disappear within sixty days, even if treatment with isoniazid is continued.

A study made of 21 patients treated with the drug for pulmonary tuberculosis revealed prolonged

bleeding, clotting, and prothrombin times. Platelet counts were decreased and thrombocytopenic purpura developed in 1 patient. No changes were found in the capillary permeability or capillary fragility, however.

Beitr. Klin. Tuberk. (Berlin) 112:234-246, 1954.

FRANCE

Cortisone for Asthma

Prolonged cortisone treatment is useful for severe cases of bronchial asthma associated with persistent dyspnea, report Dr. J. Turiaf and associates of the University of Paris. Oral administration is preferred to parenteral since the effectiveness is the same and the danger of infection is less.

Of 55 patients treated during the last three years, 22 were observed three months to two years. The total dose of cortisone ranged from 5 to 45 gm., depending on the length of treatment. Daily doses never exceeded 200 mg.; the smallest dose was 20 mg. Treatment was usually intermittent.

In most cases, improvement is noted after a few days. The initial dose is then decreased until the lowest effective maintenance amount is established. Relief from

Her complaint: dysmenorrhea

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dyspnea and repeated attacks enables many patients to resume a normal life.

Close supervision of the patient is absolutely necessary. Particular attention should be given to the maintenance of normal sodium, chloride, and potassium balance. The functional status of the adrenal cortex should be evaluated every three weeks. Prolonged cortisone treatment is not given for bronchial asthma associated with diabetes, active pulmonary tuberculosis, peptic ulcer, or psychic disturbances.

J. franc. méd. et chir. thorac. (Paris) 8:592-616, 1954.

Traumatic Amenorrhea

Oligo- or amenorrhea may result from excessive abrasion of the uterine mucosa during curettage.

Dr. J. Mathieu of Lyon observes that amenorrhea is seen more frequently when dilatation and curettage is done post partum than when done after abortion. Extensive scarring and formation of intrauterine adhesions obliterate the cavity. Hysterographic examination usually reveals deformity of the cavum uteri, with or without visible adhesions.

Hysterotomy by the Pfannenstiel technic with surgical lysis of the adhesions may reestablish menses.

Lyon chir. (Lyon) 50:470-473, 1955.

Phenylbutazone Therapy

Treatment with phenylbutazone frequently produces renal side effects. In a study of 26 patients, Drs. Max Levy and R. M. Sichère of Paris observed 8 episodes of uremia and

13 instances of lesser functional change. In most cases, renal function returns to normal even though the medication is continued, but kidney function should be assessed regularly to insure safe management.

Presse méd. (Paris) 63:713, 1955.

Acute Gastric Dilation

Disturbed fluid and electrolyte balance, especially in patients with preexisting disease of the upper gastrointestinal tract, may cause acute gastric dilation.

Drs. J. Hamburger and L. Leger of the University of Paris state that lowering of the effective osmotic pressure, excess extracellular fluid, hyponatremia, and hypokalemia appear to produce a severe drop in the tonus of the gastric musculature.

Intravenous administration of sodium and potassium often rapidly improves gastric function; the effects frequently can be seen a few hours after corrective treatment is instituted.

Bull. et mém. Soc. méd. hôp. Paris (Paris) 71:202-210, 1955.

Eyeground Findings

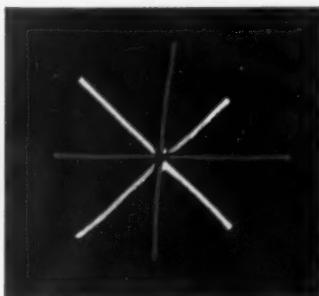
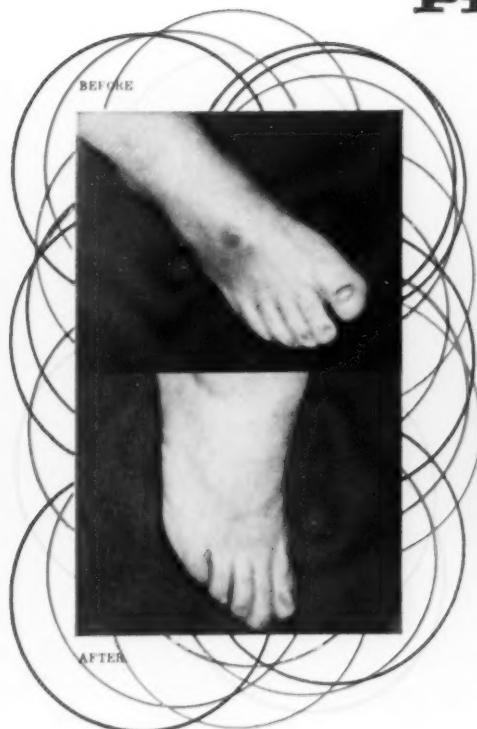
Ophthalmologic examinations during primary tuberculosis in adolescents frequently reveal chorioretinitis, granulations of the choroid, and papillary involvement.

Drs. J. Carli and Ch. Huraux of the Navy Hospital, Rochefort, report that of 150 young patients admitted with the diagnosis of primary tuberculosis, 20 presented

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Elixir, 25 mg. per 4 ml.
Multiple-dose Vials, 10 ml.,
25 mg. per ml.*

1. Photographs and clinical data by courtesy of R. I. Lowenberg, M. D., Consultant in Vascular Surgery, Connecticut State Hospital, Middletown, Connecticut.

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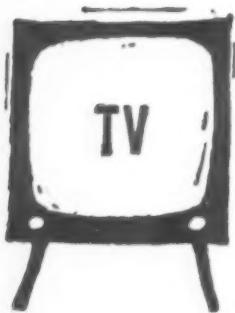
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changes of the eyegrounds. Unilateral granulations of the choroid are not considered serious if not numerous; the tuberculous infection in these cases is usually slight, and systemic and ocular lesions are readily relieved by specific therapy. With chorioretinitis and papillary changes, however, 50% of patients have poor prognoses.

Ann. ocul. (Paris) 188:344-363, 1955.

ITALY

Erythromycin for Pertussis

Because of ease of administration and less toxicity, Dr. G. R. Mitolo of the University of Genoa prefers Erythromycin aerosol to other antibiotics for upper respiratory tract infections in children. The agent was employed in 18 children with pertussis. Results in all cases were excellent.

Aggiorn. pediat. (Rome) 6:123-132, 1955.

Potassium in Stored Blood

Many of the reactions after the transfusion of blood that is more than three weeks old may be caused by a gradual increase of the plasma potassium levels.

Drs. Franco Recchia and Luigi Ravazzoni of the University of Rome observed the plasma potassium changes in 5 lots of stored blood for twenty days. The potassium increased progressively to almost twice the initial values. The increase was independent of the anticoagulant employed and was not necessarily associated with gross hemolysis.

Transfusion of blood twenty-two to twenty-four days old produced severe symptoms compatible with hyperpotassemia in 6 of 10 subjects.

Aggiorn. pediat. (Rome) 6:215-230, 1955.

Artificial Hibernation

The cooling and vegetative disconnection of persons undergoing surgery is directed to the elimination of stress. If medication is inadequate, however, cooling *per se* can be a major source of stress, as evidenced by shivering, increased metabolic activity, and posthibernation shock.

The procedure is much safer, report Drs. C. Prior and L. Vigni of the University of Siena, if insulin is administered in addition to the ganglion-blocking agents since insulin restricts carbohydrate utilization at the cellular level.

In experiments with insulin on rabbits and dogs, hibernation proceeded smoothly, lower temperatures were tolerated, and posthibernation complications did not occur. Parenteral administration of glucose postoperatively hastens recovery.

Presse méd. (Paris) 63:824, 1955.

Serum Turbidity Test

A serologic test based on the lecithinase-like activity of a phenol solution may be employed to detect lipid instability in atherosclerosis. Drs. A. Scanu and S. Schiano of the University of Naples studied

(Continued on page 244)

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ABSORPTION In hypochromic anemia, absorption of iron is often impaired in the presence of hypochlorhydria.¹

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The amount of ferrous betainate hydrochloride contained in one Armatrinsic capsule releases on solution the equivalent of 9 cc. of 0.1N hydrochloric acid.

Comparable doses of ferrous chloride were better utilized than other forms of iron tested.³

1. Goodman, L. S., and Gilman, A.: *The Pharmacological Basis of Therapeutics*, ed. 2, New York, Macmillan, 1955, p. 1454.

2. Witts, L. J.: *Lancet* I: 5862, 1936.

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Liver Fraction 2 N.F.* & Duodenum (with intrinsic factor)	100 mg.	
Vitamin B_{12} (oral grade)	10 mcg.	
<hr/>		
Cobalt	20 mg.	stimulates the bone marrow, especially in anemias associated with arthritis, infection, and nephritis
Folic acid	1.4 mg.	indicated in nutritional macrocytic anemias and megaloblastic anemia of pregnancy
Ascorbic acid	100 mg.	essential for hemopoiesis... prevents oxidation of ferrous ion
Molybdenum oxide	1.5 mg.	increases therapeutic response of iron
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Copper	.50 mg.	play important role in basic enzyme systems
Manganese	.50 mg.	
Zinc	.50 mg.	
Ferrous betaine HCl... (equiv. 100 mg. elemental iron)	666.00 mg.	dramatic new form of iron

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the sera of 10 healthy subjects, 20 with atherosclerosis, 13 with essential hypertension, 8 with disprotidemia, and 1 with essential hyperlipemia. The test results were constantly positive in all atherosclerotic patients and a relationship was found between the degree of turbidity and the increase of the beta:alpha lipoprotein ratio.

Acta gerontol. (Milan) 4:179-187, 1954.

JAPAN

Amino Acid Levels

The amount and composition of amino acid in the gastric juice varies with gastric disorders. Drs. Hiroshi Tiba and Sumio Isikawa of Tohoku University, Sendai, find that the nonprotein nitrogen content of the gastric juice is moderately elevated with gastric and duodenal ulcer. With gastric cancer, the nonprotein nitrogen rises to 405 mg. per cent and amino acids appear that normally do not exist in the gastric juice—glycine, proline, and tyrosine.

Tohoku J. Exper. Med. (Sendai) 61:189-199, 1955.

SWITZERLAND

Migraine and Epilepsy

Vasomotor and migraine headaches are sometimes the only sign of epileptiform disorders, report Drs. H. Heyck and R. Hess of the University of Zurich. Electroencephalographic examination of 248 subjects revealed abnormal and borderline tracings in 50% of the migraine patients and epileptiform tracings in 10% of the vasomotor group. The occurrence of slight seizures

could be elicited from these subjects and the epileptic origin of the attacks could be further confirmed by the results of antiepileptic therapy.

Schweiz. med. Wchnschr. (Basel) 85:573-575, 1955.

YEMEN

Corneal Transplants

The incidence of corneal opacities and scars is greatest in economically backward areas where the establishment of eye banks is virtually impossible. Under such conditions the use of monkeys (*Cynocephalus papio*) as donors may be of considerable value. Dr. S. Golovine of the Royal Hospital of Taiz used fresh monkey corneas in 4 patients. Vision increased moderately in all instances.

Presse méd. (Paris) 63:687, 1955.



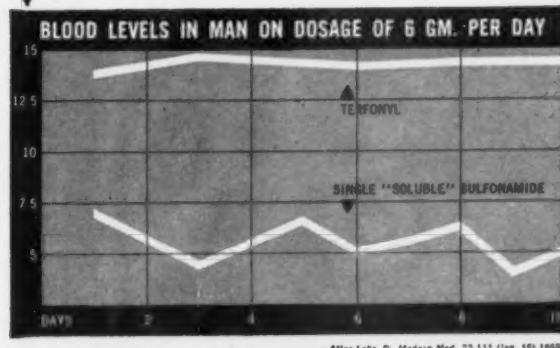
"The former owner caught the measles and had to stay home from school—if you're lucky, some of the germs may still be on it."

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mg. per 100 ml.



— Alter Lehr, D., Modern Med. 23:113 (Jan. 19) 1955.

Terfonyl is absorbed as well as single "soluble" sulfonamides, but is eliminated at a slower rate. For this reason, Terfonyl blood levels are much higher.

In experimental infections (Klebsiella, Pneumococcus, Streptococcus), Meth-Dia-Mer sulfonamides have been shown to be from three to four times more effective on a weight basis than single "soluble" sulfonamides.

Toxicity is minimal because normal dosage provides only one-third the normal amount of each sulfonamide. The body handles each component as though it were present alone, although therapeutic effects are additive.

Terfonyl Tablets, 0.5 Gm., bottles of 100 and 1000.

Terfonyl Suspension, 0.5 Gm. per 5 ml., pint bottles.

0.167 Gm. each of sulfamethazine, sulfadiazine and sulfamerazine per tablet or per 5 ml. teaspoonful of suspension.

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*the first safe antibiotic active against fungi
for effective prophylaxis
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the anti-inflammatory, anti-pruritic action* of FLORINEF —much more potent than that of topical hydrocortisone



the prophylactic action* of SPECTROCIN—effective against many gram-positive and gram-negative organisms

*". . . secondary infection with pustulation often follow scratching which is induced by the intense itching." Nelson, W. E.: Textbook of Pediatrics, ed. 5, Philadelphia, W. B. Saunders Company, 1950, p. 1516.

Supply: Florinef-S Lotion, 0.05 and 0.1 per cent, in 15 ml. plastic squeeze bottles. Florinef-S Ointment, 0.1 per cent, in 5 gram and 20 gram collapsible tubes.

Also available: Florinef Lotion, 0.05, 0.1 and 0.2 per cent, in 15 ml. plastic squeeze bottles. Florinef Ointment, 0.1 and 0.2 per cent, in 5 gram and 20 gram collapsible tubes.

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- Pleasant, neutral flavor—if desired, can be mixed with vehicle of patient's choice (formula, orange juice, milk, cola, or similar liquid). It should then be taken promptly.
- Free-flowing—easy to pour and measure
- Will not form a heavy precipitate at bottom of bottle
- Stable for 18 months at room temperature
- Therapeutic blood levels within one hour

DOSAGE: *Children*, the usual daily dosage is 10 to 20 mg. per pound of body weight, in divided doses, depending upon the type and severity of the infection. For *adults*, the suggested minimum dose is 250 mg. q.i.d.; higher dosage may be required in severe infections or in patients who do not respond to smaller doses.

SUPPLY: 1 ounce bottles, supplied with dropper calibrated at 1 ml. Each 5 ml. teaspoonful contains the equivalent of 250 mg. tetracycline hydrochloride. Each 1 ml. dropperful contains the equivalent of 50 mg. tetracycline hydrochloride.

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Standardized water-soluble chlorophyllins appear to be effective in the treatment of acute and chronic suppurative diseases and of infected or aseptic wounds and burns. Preparations of chlorophyllin promote epithelialization and growth of granulation tissue; relieve itching, pain, and local irritations associated with ulcers, burns, wounds, and dermatoses; and deodorize ulcerative lesions by antibacterial action, reports Dr. Lawrence W. Smith of New York City. Chelation may increase therapeutic applicability.

New York J. Med. 55:2041-2050, 1955.

Compilation Arterial Graft

Vinyon 'N' cloth supplemented by longitudinal strips of autogenous artery appears to bridge aortic gaps effectively in growing pigs. Dr. Charles A. Griffith and associates of the University of Washington, Seattle, find that the arterial segments composing from 25 to 75% of circumference permit growth of the graft in accordance with the increasing dimensions of the host vessel. Grafts implanted in weanling pigs are patent and free of constriction, aneurysm, and degenerative changes when the animals are full grown.

Surg., Gynec. & Obst. 101:225-234, 1955.

Amino Acids for Babies

Healthy infants need at least 60 mg. of threonine and 90 mg. of phenylalanine per kilogram daily. Deficit of either acid prevents weight gain, lowers nitrogen retention, reduces urinary excretion of the depleted compound, and raises urinary histidine, report Dr. Edward L. Pratt of New York University, New York City, and associates. Aminoaciduria induced by threonine deficiency is more pronounced in older infants; nitrogen balance in younger infants is more affected by phenylalanine deficiency.

J. Nutrition 56:231-251, 253-263, 1955.

Changes in Lipid Levels

Serum lipoprotein and cholesterol levels are apparently related to the calorie balance of the body. Doubling the caloric intake of young men does not increase the serum lipoprotein and cholesterol levels as long as the surplus energy is expended as heat and muscular energy, report Dr. George V. Mann and associates of Harvard University, Boston. When high-calorie diets result in increased adipose tissue, lipid levels are raised. Lipid levels are lowered when weight is lost.

New England J. Med. 253:349-356, 1955.

Bypass of Pulmonic Valve

Permanent ligation of the main pulmonary artery and total bypass of the pulmonic valve appear to be a safe procedure in dogs. An extra-cardiac shunt of plastic tube and venous homograft connects the right ventricle to the main pulmonary artery just distal to the occlusion ligature. Drs. T. J. Donovan and J. F. Donovan of Harvard University, Boston, report that the shunt remains patent for as long as three years postoperatively. Lack of a valve in the shunt does not significantly impair cardiac function in the animals.

J. Thoracic Surg. 30:1-8, 1955.

Reactions to Cow's Milk

Measures for prevention of acute allergic reactions to cow's milk in infants should begin during pregnancy. Dr. C. Collins-Williams of the University of Toronto, Canada, reports that restriction of the mother's intake of milk during pregnancy and nursing and complete elimination of raw milk from feedings of newborn infants may prevent milk sensitivity. Lactose or glucose water should be used if supplements to breast milk are necessary; if breast feeding is not possible, evaporated milk for nonsensitive infants, or a milk substitute for children manifesting milk sensitivity, should be fed. Allergic infants should be started on an oral hypo-sensitization program with drop doses of pasteurized milk as soon as symptoms have subsided.

Ann. Allergy 13:415-421, 1955.

Amelioration of Palsy

Cerebral palsied children may be benefited by the oral administration of Thorazine. Although no appreciable specific effect on muscle status was noted, 9 of 18 afflicted children became more relaxed, less anxious and irritable, and easier to manage while receiving 30 to 60 mg. of the drug daily, report Dr. Eric Denhoff and Raymond H. Holden of the Meeting Street School, Providence. Mental and emotional improvement facilitates adaptation to physical therapy techniques. Thorazine is easily administered as an orange-flavored syrup; 5 cc. contains 10 mg. of chlorpromazine hydrochloride. Toxicity referable to the blood, urine, or liver was not noted. Some children were listless during the first few days of therapy, and constipation was reported.

J. Pediat. 47:328-332, 1955.

Hormones and Anemia

Prolonged administration of large doses of diethylstilbestrol may precipitate iron-deficiency anemia in pregnant women. With increasing doses of the hormone up to the thirty-sixth week of gestation, mean serum iron values decrease significantly and iron-binding capacities and mean erythrocyte protoporphyrin levels are both elevated, reports Dr. Sidney J. Peck of the University of Minnesota, Minneapolis. Erythrocyte, reticulocyte, leukocyte, hematocrit, and hemoglobin values are not altered by the hormone.

Obst. & Gynec. 5:796-800, 1955.

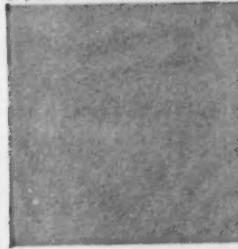
The organisms commonly involved in
Pneumonia



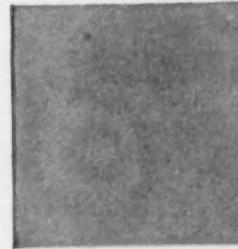
D. pneumoniae (10,000 X)



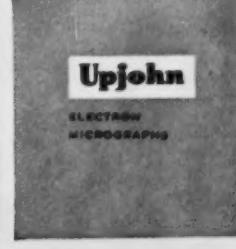
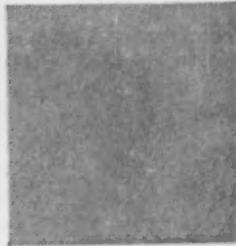
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SHORT REPORTS

Effects of Valvuloplasty

The improvements in cardiovascular and renal function after valvuloplasty for correction of mitral stenosis vary widely. Subjective improvement is not necessarily correlated with any specific correction of functional abnormalities, although physical improvement generally parallels increases in renal plasma flow, glomerular filtration rate, and salt and water excretion during and after exercise in some individuals, report Dr. Walter E. Judson of Boston University and associates. Usual results of valvuloplasty are significant elevation of stroke index, definite lowering of pulmonary pressures, and reduction in total pulmonary resistance.

J. Clin. Investigation 34:1297-1311, 1955.

Syphilitic Cardiac Disease

Treponemal immobilizing antibodies may be detected in the blood of patients with late manifestations of cardiovascular syphilis but negative serologic reactions to reagins. The syphilitic nature of lesions of the aorta and aortic valves was established by positive treponema immobilizing results in some patients with no other physical or serologic manifestations of syphilitic infection, report Drs. Ben Friedman of the Veterans Administration Hospital, McKinney, Tex., and S. Olansky of the United States Public Health Service, Chamblee, Ga. Positive results may be obtained as long as forty-three years after initial infection.

Am. Heart J. 50:323-330, 1955.

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1. MacBryde, C. M.: in *Current Therapy*, W. B. Saunders Co., Philadelphia, 1953, p. 350.

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*Fremont, R. E.; Rimmerman, A. B., and Shaftel, H. E.: Postgrad. Med. 10:216, 1951.

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SHORT REPORTS

Arterenol for Migraine

Pain, edema, rhinorrhea, and conjunctival injection associated with migraine headaches are frequently relieved by intravenous injection of Arterenol (norepinephrine). Slight attacks may be relieved within twenty minutes while severe headaches may persist for one hundred and sixty minutes, report Drs. Adrian M. Ostfeld and Harold G. Wolff of New York Hospital-Cornell Medical Center, New York City. The drug was ineffective in 4 instances of status hemicranicus. Disturbances in intraocular and intracranial structures, irritability, giddiness, and difficulty in thinking also disappear in patients with migraine after Arterenol treatment.

Arch. Neurol. & Psychiat. 74:131-136, 1955.

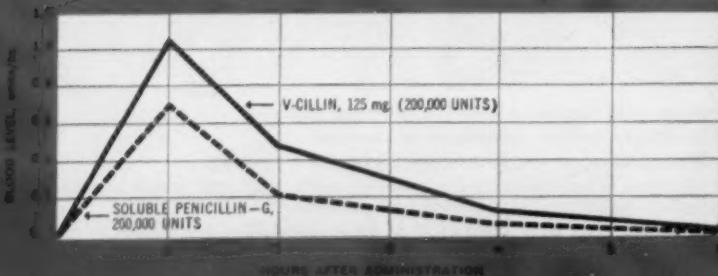
Therapy of Chorea

Symptomatic improvement of patients with Huntington's chorea seems to be effected by the administration of reserpine. Intravenous infusion of 5 mg. and oral administration of 4 mg. of reserpine for three days, followed by oral maintenance doses of 4 to 11 mg. daily, induced significant decreases in hyperkinesis in all of 19 patients treated, slight to moderate improvement in motor function in 18, and slight improvement in emotional control in 12, report Dr. Jorge A. Lazarte and associates of the Rochester State Hospital, Minn. Concomitant administration of amphetamine prevents inertia.

Proc. Staff Meet., Mayo Clin. 30:358-365, 1955.

NEW SUPERIOR ORAL PENICILLIN

V-CILLIN



SHORT REPORTS

Fate of Arterial Homografts

Results of grafting of branched arterial segments, which affords a more severe test of the long-term fate of homografts than does the transplantation of straight segments, indicate that grafts preserved in Tyrode's solution are superior to frozen or lyophilized grafts. Dr. Herbert J. Leary and associates of the State University of New York, Syracuse, report that grafts preserved in Tyrode's solution do not show shrinkage, wrinkling, or calcification even after 500 days of replacement, although thrombosis sometimes occurs. Frozen grafts tend to calcify or to atrophy. Both lyophilized and frozen grafts are more subject to thrombosis than are grafts preserved in Tyrode's

solution; regardless of the method of preservation, thromboses occur more often in the branched than in the straight segment of the graft. *Surgery* 38:476-485, 1955.

Recovery from Hepatic Coma

Intravenous administration of sodium glutamate appears to produce temporary remissions of hepatic coma in patients with chronic liver disease. Dr. J. M. Walshe of the University College Hospital, London, reports that glutamic acid induced return of consciousness and recovery of reflexes in 3 and partial remission of coma in 2 patients. Coma with massive hepatic necrosis is not affected.

Lancet 268:1235-1239, 1955.

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Status Epilepticus Control

Intravenously administered lidocaine may effectively terminate prolonged epileptic attacks. Single intravenous doses of 1 to 2 mg. per kilogram of body weight may stop prolonged seizures within twenty to thirty seconds; in other patients intravenous drip infusion of 2 mg. or more per kilogram an hour may be necessary, or the two methods may be combined, report Dr. C. G. Bernhard and associates of the Karolinska Institute and the Neurosurgical and Neurotraumatological Clinics, Serafimerlasarettet, Stockholm. The anticonvulsant effect is increased by addition of a barbiturate; combination therapy is recommended for severe status epilepticus.

Arch. Neurol. & Psychiat. 74:208-214, 1955.

Research Reactor Policy

The Atomic Energy Commission will encourage widespread research in atomic energy by assisting non-profit educational and medical institutions in the operation of reactors. Lewis L. Strauss, chairman of the AEC, announced that the Commission will waive charges on special nuclear materials, neutron sources, and heavy water used in the operation of the reactor and will provide funds or services for the fabrication, preparation, and reprocessing of fuel elements. Applicants must establish a research program that will contribute to the application of reactor technology. The government reserves rights to determine patent rights and distribute information gained.

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Diagnosis of Sarcoidosis

A negative mumps skin reaction associated with a positive mumps complement fixation suggests sarcoidosis. Dr. Edward L. Quinn and associates of Henry Ford Hospital, Detroit, report that 6 of 7 sarcoid patients had positive complement fixation and negative mumps skin reactions. Results of the tests are ordinarily positively correlated in healthy persons.

J. Invest. Dermat. 24:595-598, 1955.

Antifibrillatory Drugs

Administration of Benadryl seems to correct auricular fibrillation in some patients. Both Benadryl and Banthine are as effective as quinidine in altering experimentally induced auricular fibrillation in animals, but Banthine is not effective in treatment of human patients, report Drs. H. Lenox H. Dick and Elton L. McCawley of Portland,

Ore. The ineffectiveness of Banthine, a parasympatholytic drug, suggests that, although important in initiating the disturbance, hyper-vagotonia is not a major factor in maintenance of the arrhythmia.

Am. Heart J. 50:442-448, 1955.

Reversal of Psychoses

The hallucinogenic effects of lysergic acid diethylamide or mescaline may be corrected by intravenous injection of Frenquel, a piperazine derivative. Electroencephalographic changes in animals given the hallucinogenic agents are reversed within two to ten minutes after the administration of the nonhypnotic drug, report Drs. Franco Rinaldi and Harold E. Himwich of the State Research Hospital, Galesburg, Ill. Frenquel does not alter films of animals not pretreated with the hallucinogenic alkaloids.

Science 122:198-199, 1955.





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Induction of Arrhythmia

Intravenous or oral administration of glucose may precipitate ventricular premature beats or tachycardia in patients at or near the point of digitalis intoxication. The fluctuations in blood sugar levels apparently cause reductions in the arterial plasma potassium levels which significantly affect cardiac sensitivity to digitalis, reports Dr. Ernest Page of the Medical College of Alabama, Birmingham. Ventricular arrhythmias were precipitated in 7 of 37 digitalized patients by ingestion of glucose or of high carbohydrate meals or by infusion of glucose. Am. J. Med. 19:169-176, 1955.

Penicillin Reactions

Decholin sodium appears to be of value in the treatment of the delayed serum-sickness type of penicillin reaction and of other allergic conditions. Dr. George W. Owen, Jackson, Miss., reports that most cases of delayed penicillin reaction, ivy contact dermatitis, and acute urticaria are relieved by an initial intravenous injection of the salt and, sometimes, subsequent oral administration of Decholin and an antihistamine. In treatment of penicillin reaction, best results are obtained when therapy is begun soon after onset.

South. M. J. 48:846-848, 1955.



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1. Johnston, R.L.: J. Indiana St. M.A. 46:869, 1953. 2. McHardy, G., and Browne, D.: Southern M.J. 45:1139, 1952.

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Intravenous administration of Colcemid, an alkaloid of colchicine, seems to produce complete relief from the signs and symptoms of acute gout in some patients. Of 20 persons, 15 had complete remissions and 4 were partially relieved of acute attacks of gout within forty-eight hours after administration of 1 to 4 mg. of Colcemid, report Dr. William C. Kuzell and associates of Stanford University, San Francisco. The patient who did not respond has never had elevated serum uric acid but has many large tophi. Diarrhea in 2 patients was the only untoward effect noted; Colcemid does not produce venous irritation.

Arch. Int. Med. 96:153-156, 1955.

Equipment for Quadriplegics

A standard typewriter may be adapted for use by quadriplegic patients. Earl Clifton and Dr. John H. Wagner, Jr., of the Veterans Administration Hospital, Long Beach, Calif., report that a wrist and finger stabilizer with a rubber-tipped plastic rod to act as a striker permits the quadriplegic patient to operate the keyboard and the line space lever of a typewriter. To feed the paper in reverse, an actuator is attached to the right end of the feed roll. Pulling the plunger of the actuator forward engages a dog against a ratchet and turns the platen in reverse. The cost of materials for converting a typewriter is less than 50¢.

Arch. Phys. Med. 36:503-506, 1955.

Complaints in elderly "Diminished in number"

Harris found that the effect of oral reserpine (Serpasil) was to diminish complaints typical of elderly people not in the best of health. The majority of 26 patients studied expressed a feeling of well-being and appeared calmer; there was also less difficulty in sleeping.

A convenient, geriatric dosage form—Serpasil Elixir—is now available.

Harris, R.: Ann. New York Acad. Sc. 59:95 (April 30) 1954.

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Bibliography: 1. Tietze, C., in Dickinson, R. L.: Techniques of Conception Control, ed. 3, Baltimore, Williams & Wilkins Co., 1950, pp. 55-57. 2. Finkelstein, R.; Gutmacher, A., and Goldberg, R.: Am. J. Obst. & Gynec. 63:664 (Mar.) 1952. 3. Reich, W. J., and Nechtow, M. J.: Practical Gynecology, Philadelphia, J. B. Lippincott Co., 1950. 4. Tietze, C.; Lahfeldt, N., and Liebmann, H. G.: Am. J. Obst. & Gyn. 66:904 (Oct.) 1953. 5. Greenhill, J. P.: Office Gynecology, ed. 5, Chicago, The Year Book Publishers, Inc., 1948.

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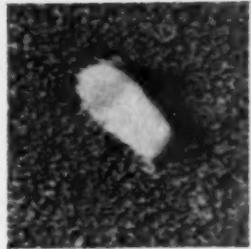
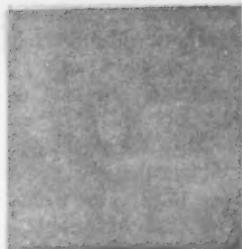
Unidentified pleomorphic bacteria may be isolated from the blood of patients with chronic illnesses such as idiopathic fever, lymphoma, chronic brucellosis, cardiovascular disease, or Reiter's disease. The organisms are pathogenic for 5-day-old chick embryos but not for laboratory animals, observe Dr. Charles M. Carpenter of the University of California at Los Angeles and associates. The organisms were found in 44 of 100 patients with chronic illnesses and in only 2 of 50 healthy individuals. Many strains of the unidentified bacteria resemble *Corynebacteria*. Bizarre forms may be noted, together with small and large rods. Bipolar swellings, bars and granules, coccoid and coccobacillary forms, rings, and granules are typical. The average length of the rods is 3 microns, and the coccoid forms are about 1 micron in diameter. A colony is usually round with an undulate edge. The surface is finely granular with an elevated periphery and a papillate center.

J. Chronic Dis. 2:156-161, 1955.

Solution to Crossword

I	H	E	3	M	4	A	5	D	6	R	7	P	8	S	9	T	10	T	11	E
12	O	S	I	D	E					A	13	R	I	C	I	N				
14	N	A	D	L	L	D				D	15	D	T	D						
16	E	U	S	T	O	L	17	I	18	R	19	N	20	N	21	R	E			
Y	22	T	R	E	N	C	23	H	24	F	25	E	V	E						
26	S	C	Y	T	O	B	27	A	28	S	29	T	E	M	A					
30	W	31	C	O	L	O	32	P	33	O	34	I	35	L						
35	A	36	M	I	N	E	37	U	38	S	39	G	40	A	L	O				
41	E	42	R	I	O	N	43	H	44	N	45	R	46	I	R	E	D			
45	R	E	A	D	S	Y	46	S	47	T	48	A	49	T	E					

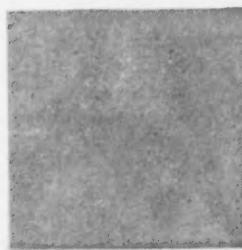
The organisms commonly involved in
Bronchopneumonia



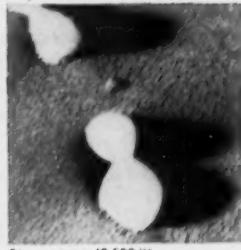
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SHORT REPORTS

Cortisone for Stroke

When administered within forty-eight hours after the onset of symptoms, cortisone may be valuable in the treatment of apoplectic stroke due to acute cerebral thrombosis or embolism. Dr. Henry I. Russek of Staten Island, N.Y., and associates report that remarkable neurologic recovery occurred in 27 of 35 patients given cortisone. Patient motivation and morale were improved and paralytic signs and symptoms subsided. Residual symptoms consisted mainly of lower facial paresis, slight foot drop, and minor difficulties in speech and deglutition. When cortisone is used, rehabilitation can be started after one or two days of therapy.

J.A.M.A. 159:102-105, 1955.

Pain Relief from Ultrasound

Pain and tenderness from amputation stumps, phantom limbs, neuromas, and scar formations may be reduced by direct exposure to ultrasonic vibrations. Short ultrasound treatments daily at an intensity of 1 w/cm.² produced complete relief in 23, persistence of moderate residual discomfort in 9, and no benefit in 3 patients, report Drs. David Rubin and John H. Kuitert of the Brooke Army Medical Center, Fort Sam Houston, Tex. Histologic examination of treated tissue revealed no inflammation, coagulation necrosis, or other destructive changes. Mechanical alteration in the peripheral tissues is probably the mode of action.

Arch. Phys. Med. 36:445-452, 1955.

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SHORT REPORTS

Effects of Insulin Aerosol

The aerosol method of insulin administration appears to be as effective as subcutaneous injection of the drug. Dr. M. L. Gujral and associates of the Medical College, Lucknow, India, find that equivalent subconvulsive doses of insulin produce similar decreases in the fasting blood sugar levels of normal rabbits with either method of administration. Although the blood sugar level four hours after treatment is higher after aerosol, the difference is not statistically significant and may be attributed to quicker and more nearly complete absorption of the drug. Aerosol therapy is less expensive than subcutaneous injections.

J. Indian M. Prof. 2:711-714, 1955.

Urushiol Dermatitis Therapy

Amberlite resins XE-87-2 and XE-87-3 have a high capacity to absorb and detoxify in vitro the active toxic substance of poison ivy, urushiol, and may be of value in treatment of poison ivy dermatitis. Dr. Francis M. Thurmon and associates of Tufts College, Boston, report that these resins in 10% suspensions in 66% glycerin are more effective in clearing and relieving the discomfort of positive urushiol patch test reactions on human skin than is zirconium cream, Prantal cream, or Cortifan cream. As skin barriers to urushiol dermatitis, 10 to 15% resin suspensions are 98% effective. Comparable values for zirconium and Prantal cream are 87 and 83%. J. Invest. Dermat. 25:9-20, 1955.



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SHORT REPORTS

Antibiotic for Moniliasis

The recently isolated antibiotic, Nystatin, may effectively control monilial infections of the skin and the mucous membranes. Symptoms were completely relieved in 6 of 8 patients after initial therapy, reports Dr. Milton B. Sloane of Columbia University, New York City. In the remaining patients, symptoms recurred when therapy was stopped but disappeared when Nystatin treatment was resumed. Cultures of *Candida (monilia) albicans* can be recovered from some patients after Nystatin therapy, but are not necessarily associated with recurrences. The drug may be given in an ointment, troches, suppositories, or solution.

J. Invest. Dermat. 24:569-571, 1955.

Multiple Myeloma Treatment

Administration of radioactive iodine or radioactive iodinated serum albumin may be of some benefit in the treatment of multiple myeloma. Dr. Joseph P. Kriss of Stanford University, San Francisco, and associates found that 4 of 9 patients given I^{131} and 3 of 7 given radioactive iodinated serum gained strength and were relieved of pain. Relapse may occur within three months.

Radiology 65:241-248, 1955.

Books Received

THE EXPRESSION OF THE EMOTIONS IN MAN AND ANIMALS by Charles Darwin with an introduction by Margaret Mead, 372 pp., ill. The Philosophical Library, New York City, 1955. \$6

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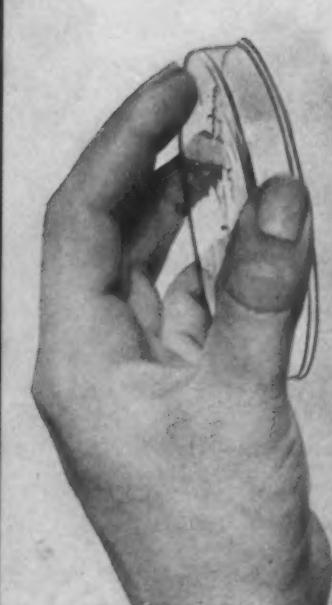
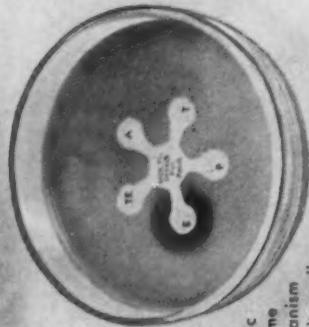


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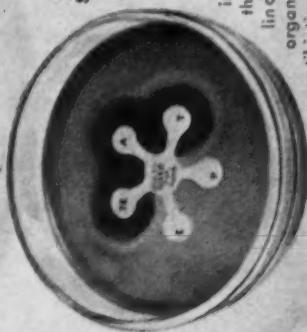
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Lead E.D.T.A. complex is apparently a satisfactory contrast medium for radiographic examinations. The compound produces dense shadows when given orally for visualization of the esophagus, intravenously for pyelography, or intranasally for contrast within the sinuses, reports Dr. N. Sapeika of the University of Capetown, Union of South Africa. The lead complex also provides an alternative to organic iodine compounds for intravenous pyelographic examination. Lead E.D.T.A. does not produce diuresis and, unlike iodides, does not give a reaction with the orthotoluidine test for blood. Oral administration does not cause irritation of the gastrointestinal tract. Large doses of the lead complex may induce transient hemolysis or punctate basophilia, and caution must be used if other drugs are being given concurrently. Concurrent administration of calcium E.D.T.A. diminishes the likelihood of untoward reactions.

Brit. M. J. 4932:167-169, 1955.



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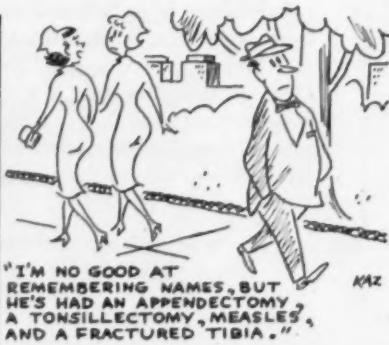
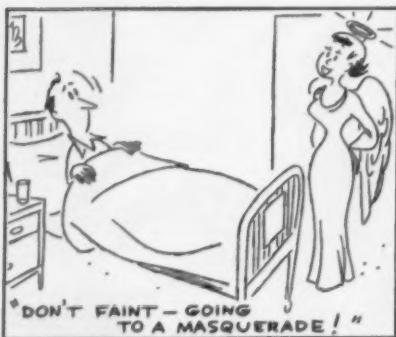
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hyaline membranes, report Drs. Matthew J. G. Lynch and Les D. Mellor of the General Hospital, Sudbury, Ont. The membranes are believed to be a concentration of excessive epithelial secretion; probably, since staining reactions of the membranes and of bronchiolar granules are inhibited by prolonged fixation, the reacting substance in both is a metallic complex forming part of an enzyme system.
J. Pediat. 47:275-286, 1955.

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Virus Pathogenicity

The virus of Newcastle disease is primarily pathogenic for fowls but may cause conjunctivitis and systemic illness in man. Biologically similar to the mumps-influenza strains, the virus has been isolated from the eye washings, nasal secretions, saliva, and, rarely, from the blood and urine of patients with acute granular conjunctivitis, reports Dr. Alfred S. Evans of the University of Wisconsin, Madison. Patients may complain of preauricular adenopathy, fever, chills, headache, and malaise.

Am. J. Pub. Health 45:742-745, 1955.

Treatment of Hypometabolism

The administration of *I*-tri-iodothyronine seems to be of value in the treatment of nonmyxedematous hypometabolism. Dr. A. Stone Freedberg and associates of Harvard University, Boston, report that 2 patients unresponsive to large doses of desiccated thyroid were benefited by oral doses of the hormone. Basal metabolic rates are raised and such symptoms as slight puffiness and obesity, lethargy, fatigue, and muscular and joint stiffness and tenderness disappear when *I*-tri-iodothyronine is given alone or in conjunction with *I*-thyroxine.

New England J. Med. 253:57-60, 1955.



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Streptococcal Inhibition

In the absence of leukocytes, large amounts of penicillin inhibit group A streptococci in vivo only in the logarithmic phase of growth. Dr. James E. Darnell, Jr., and associates of Washington University, St. Louis, report that intramuscular administration of 30,000 units of penicillin sterilizes foci when given within five hours after implantation in the peritoneal cavities of rabbits of agar disks in which streptococci have been incorporated. Repeated administration of penicillin after the growth plateau of the bacteria has been reached decreases the bacterial count, but some viable organisms continue to persist.

J. Clin. Investigation 34:1237-1241, 1955.

Graft for Coarctation

A homologous aortic graft connecting the ascending aorta with the descending thoracic aorta appears to relieve coarctation of the distal two-thirds of the aortic arch. Dr. Thomas G. Baffles of Children's Memorial Hospital, Chicago, reports that in dogs with the aortic arch ligated distal to the left subclavian artery, the aortic grafts show no evidence of intimal destruction or aneurysmal dilatation six months after operation. The narrowed segment of the aortic arch is not excised. The operation is feasible for human beings and may permit correction of infantile coarctation of the aorta in cases previously considered inoperable.

Surgery 38:486-497, 1955.

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*Nachtigall, Henry B.: Clinical Evaluation of Diphenylpyrrolidine, *A. Allergy*, 1955 (in press).

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Changes in serum levels of glutamic oxalacetic transaminase (SGO-T) may provide a sensitive index of liver cell destruction which does not necessarily correlate with usual tests of liver dysfunction. Conditions such as carbon tetrachloride poisoning, infectious or homologous serum hepatitis, and obstructive jaundice cause significant increases in SGO-T, find Drs. Felix Wróblewski and John S. LaDue of the Sloan-Kettering Institute and the Memorial Center for Cancer and Allied Diseases, New York City. Levels of SGO-T activity with cirrhosis may be normal, slightly elevated, or variable; with liver metastases, levels are varied.

Ann. Int. Med. 43:345-360, 1955.

Tumor Growth Accelerant

Heat-treated tumor tissue of mice contains an agent which seems capable of accelerating the growth of transplanted tumors. Transplantation and death times are reduced by injection of the heat-stable material twelve days before inoculation with viable neoplastic tissue, report Dr. George Miroff and associates of the University of Minnesota, Minneapolis. The effect is greater for accelerator material prepared from a fast-growing tumor than for that from a slow-growing lesion. In addition, the percentage increase in the growth rate is affected by the original growth rate of the viable cancer cells that were injected.

Cancer Res. 15:437-444, 1955.

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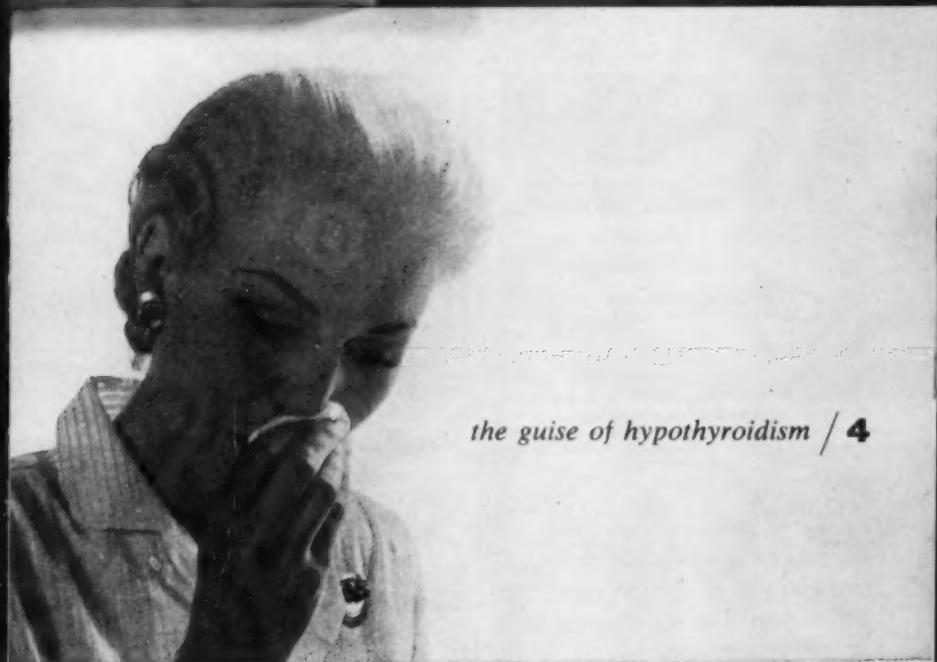
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2/21904



the guise of hypothyroidism / 4

just "chronic sniffles"...or a significant symptom?

The patient with chronic rhinitis deserves a searching diagnostic inquiry. "Occasionally a patient with myxedema goes from doctor to doctor complaining of stuffy nose or post-nasal drip... symptoms persist until someone recognizes that the nasal symptoms are part of a systemic disorder."¹

The many guises of hypothyroidism require "a broadening of clinical concepts... so that the diagnosis can be made more frequently."² Like chronic rhinitis, other symptoms of subclinical hypothyroidism sometimes escape diagnosis. Chronic fatigue, diminished cold tolerance, obesity, menstrual disorders, dryness of hair and skin, may all point to a need for thyroid. When such symptoms as these are seen,³a

high degree of suspicion for thyroid disorder remains the most important factor in diagnosis of any case."³

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1. Cheney, M. C.: GP 10:32 (July) 1954.
2. Starr, P.: Postgrad. Med. 17:73 (Jan.) 1955.
3. Pickering, D. E., and Lusted, L. B.: GP 11:99 (Feb.) 1955.

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Movable Organ

A woman patient rattled on and on about her imaginary ailments. I finally interrupted and said, "Let me see your tongue."

After closely scrutinizing it for a few seconds, I said gravely, "Just as I thought, loose at both ends."—J.B.

Deadline

A young married coed registering for summer sessions at college asked if she could take several class hours over the study schedule so that she could graduate at the end of the summer.

"And just whom are you trying to beat?" asked the faculty advisor.

"The stork," was her reply.—D.M.



"Oh, I've been okay for three days . . . but I find him so amusing."



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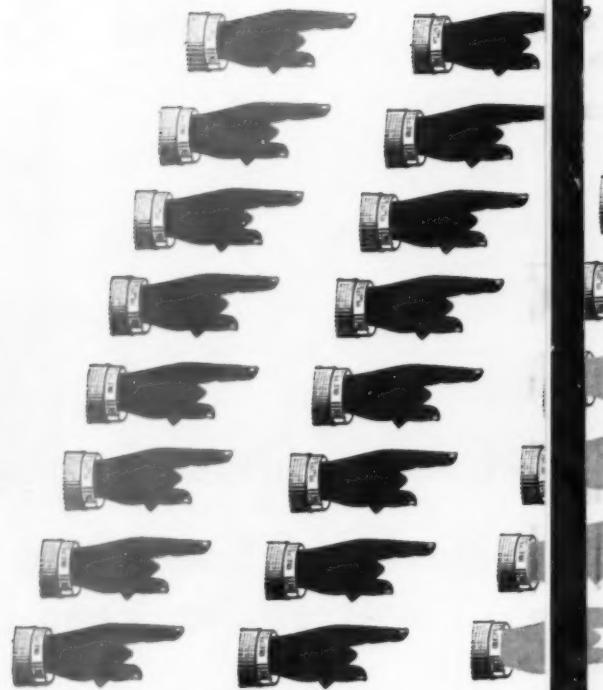
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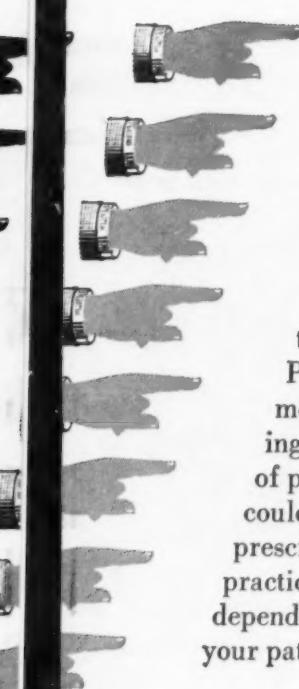
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A cold is both positive and negative—sometimes the eyes have it and sometimes the nose.—S.L.

Simple Test

A young mother came in to see me and said that she thought her 6 children had driven her out of her mind.

"There is a simple test for that," I said. "If you think you are crazy, you are not. If you think everyone else is crazy, you are."—E.K.



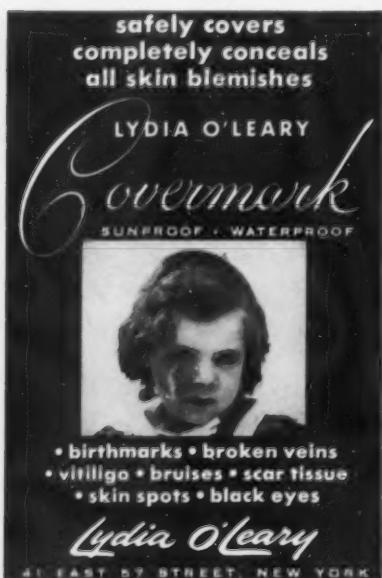
"And just how contagious would you say it is, Doctor?"

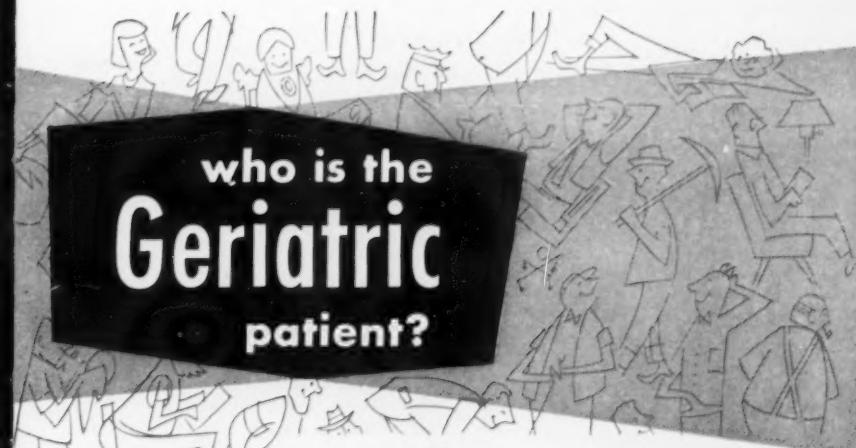
Obscure Malady

I was accompanying another physician on his morning rounds. I was thumbing through a patient's chart when I noticed that next to "diagnosis" were the letters G O K.

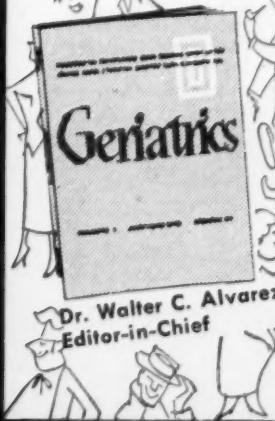
"Doctor," I asked, "what does G.O.K. mean?"

"God Only Knows," he replied.
"We can't diagnose the disease."—
B.I.B.





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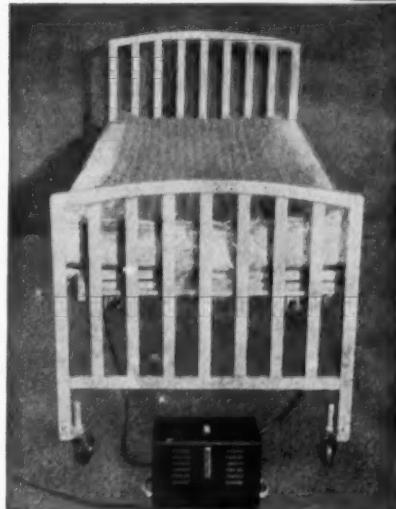
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1. Gardner, W. J., Anderson, R. M., and Lyden, Jr.: The Alternating Pressure Pad: An Aid to the Proper Handling of Decubitus Ulcers, *Archives of Physical Medicine and Rehabilitation*, (Sept.) 1954.
2. Gardner, W. J., and Anderson, R. M.: Alternating Pressure Alleviates Bed Sores, *Mod. Hosp.* 71:72 (Nov.) 1948.
3. Gardner, W. J.: Prevention and Treatment of Bedsores: Air Mattress Accomplishing Alternation of Pressure Points, *J. A. M. A.* 138:583 (Oct. 23), 1948.

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